# MobilePro-Anschalte-Installations-Handbuch_4_2_13_EN

3

ChristianHartleb

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# 1 Copyright

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Industriestraße 1
82110 Germering

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## 1.1 Explanation of symbols

The following symbols are used in this manual:

| | |
|---|---|
| > | This symbol introduces an instruction. |

- This symbol identifies list items.
  - ♦ This symbol identifies lower-level list items.
    - ◊ This symbol identifies the next lowest level of list items.

This symbol identifies tips or additional instructions.

This symbol draws your attention to important information or prerequisites.

This symbol and text identify warnings that must be observed, as otherwise property damage or data loss may result.

**This symbol and text identify warnings that must be observed, as otherwise a risk of injury or death exists.**

# 2 Safety instructions

The system has been manufactured and inspected with great care. Despite this, we do not recommend using it in situations where malfunctions can cause damage or consequential damage. The manufacturer shall not be liable beyond the extent provided by law.

⚠ Do not expose the Mobile Pro to heat (direct sunlight, radiators).

⚠ Avoid contract with water and chemicals as well as strong vibrations. Otherwise, the Mobile Pro may be destroyed.

**Only authorized persons may open the housing.**

**The power plug must always be disconnected before opening. Refer also to the section Swich on, switch off.**

**Failure to observe these rules results in a risk of fatal injury from electric shock!**

⚠ The power socket must be installed close to the device and easily accessible.

⚠ The S2M (PRI)/E1 connections must be operated on an NT primary rate connection or on a PBX.

⚠ The S0 (BRI) connections are to be operated on an NTBA or on a PBX.

Any other use or unauthorized modifications to the device will void the authorization to operate it.

⚠ The keyboard, mouse and monitor may be plugged in or unplugged only if the Mobile Pro is switched off and the power plug is disconnected. Otherwise, malfunctions of or damage to the Mobile Pro or connected devices may result.

⚠ For security reasons, we recommend operating Mobile Pro in a subnet when it is connected to a LAN. No firewall is installed on Mobile Pro.

⚠ Only software which is explicitly released from manufacturer is supported. No liability for damages —regardless of their legal basis— shall be accepted if 3rd party software is used.

## 2.1 Safety standards and certifications

Mobile Pro fulfills the safety regulations of EN60950.

**Caution!** Mobile Pro fulfills the requirements for class B radio radiation only if no audio lines are connected.

CE

# 3 Introduction

This manual describes the installation, commissioning and configuration of the Mobile Pro system. It also describes the creation of trace and log files for fault analysis and the possible service access points for commissioning the system.

## 3.1 Target group

This manual is intended for service technicians who connect the Mobile Pro and put it into service.

**For information about administration of Mobile Pro, refer to the Administration manual.**

# 4 Installation

## 4.1 Scope of delivery

Check to make sure that the delivery is complete. If you find damage to the device or accessories, do not switch on the device under any circumstances, but contact your supplier.

- 1 Mobile Pro
- 1 power cable for the power supply (rubber connector)
- Switch boxes, depending on the model:
    - Mobile Pro 30/80: 1 switch box (1 x PRI) with power supply adapter
    - Mobile Pro 30/500: 1 switch box (1 x PRI) with power supply adapter
    - Mobile Pro 60/160: 1 switch box (2 x PRI) with power supply adapter
    - Mobile Pro 60/500: 1 switch box (2 x PRI) with power supply adapter
    - Mobile Pro 4/4: 2 switch boxes (2 x BRI per switch-box) with power supply adapter
    - Mobile Pro 8/8: 4 switch boxes (2 x BRI per switch-box) with power supply adapter
- 1 "Teleserver Mobile Pro Documentation" CD consisting of:
    - 1 Administration manual
    - 1 user manual
    - 1 short reference guide with user examples
    - 1 dial-up scheme
    - 1 menu structure
    - 1 licensing agreement
    - 1 End User License Agreement (EULA)
    - 1 CE Declaration of Conformity
- Cables, depending on the model:

| | | |
|---|---|---|
| **For 1x PRI variants** | | |
| Mobile Pro 30/80: | 4 connector cables for PRI connections | 2 cables with open ends |
| Mobile Pro 30/500: | 4 connector cables for PRI connections | 2 cables with open ends |
| **For 2x PRI variants** | | |
| Mobile Pro 60/160: | 8 connector cables for PRI connections | 4 cables with open ends |
| Mobile Pro 60/500: | 8 connector cables for PRI connections | 4 cables with open ends |
| **For BRI variants** | | |
| Mobile Pro 4/4: | 8 connector cables for BRI connections | |
| Mobile Pro 8/8: | 16 connector cables for BRI connections | |

- 1 crossover cable (LAN)
- 4 rubber feet (for tabletop installation of unit)

## 4.2 Prerequisites

1. Power supply system: 220V network
2. Connection(s) to the PBX or NT connection for Mobile Pro:
    - 1 NT PRI/BRI connection
    - 1 PBX PRI/BRI connection
    - Network access (LAN)

For additional information, refer to the chapter entitled TechnicalData.

☞ Check the configuration for the assignment of the B-channels (incoming/outgoing/bidirectional) in the trunk (see Section [Assigning the B-channels].

☞ Check whether your PBX allows Explicit Call Transfer and configure this if necessary.

# 4.3 Operating elements/connections

⚠ Only the following interfaces may be used for the connections: PS/2 mouse, PS/2 keyboard, VGA monitor, LAN, ISDN (PRI/BRI).

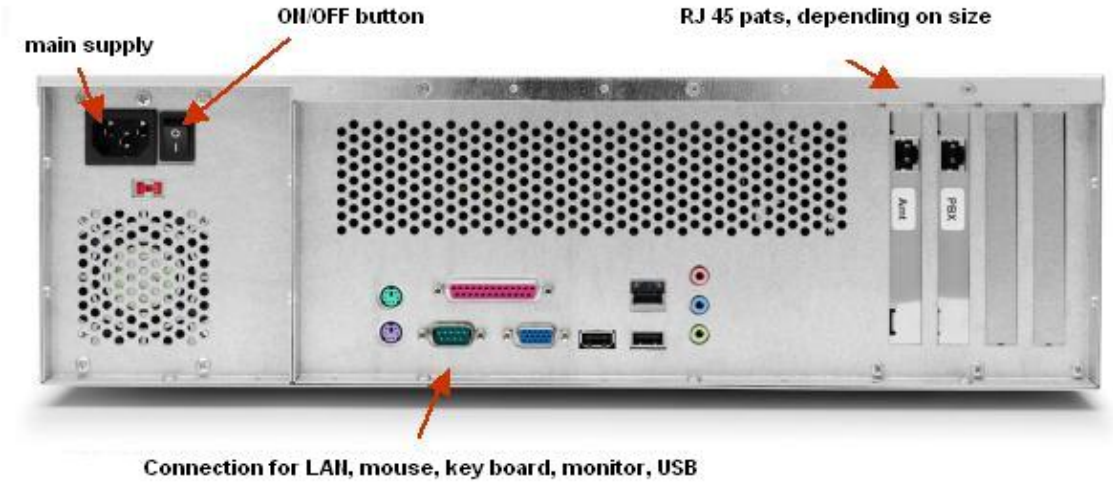
⚠ The PRI/BRI cables must not be kinked under any circumstances.

⚠ Do not plug in the power plug until all connector cables are connected to the Mobile Pro.

## 4.3.1 Connections, switches (buttons) on the Mobile Pro

Front side

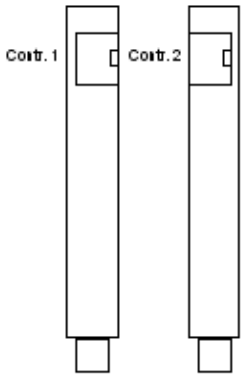
Rear side



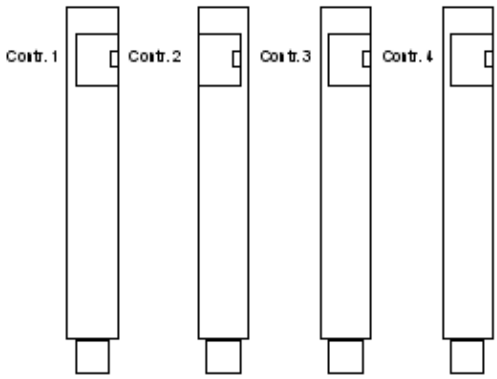
The system is factory-configured to start automatically when the power supply voltage is switched on (see rear of the device).

View of the RJ45 jacks for Mobile Pro S2M (PRI) variants:

Mobile Pro 30/80 and Mobile Pro 30/500

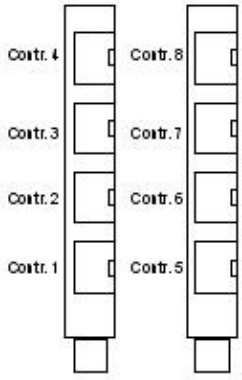



Mobile Pro 60/160 and Mobile Pro 60/500

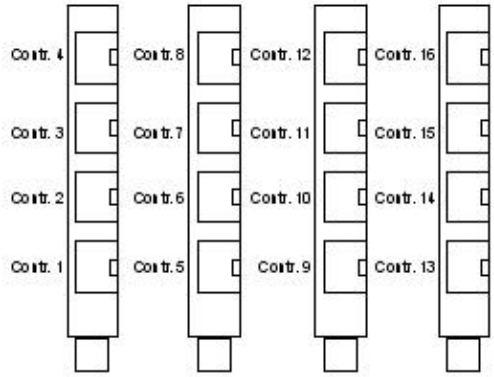



View of the RJ45 jacks for Mobile Pro S0 (BRI) variants:

Mobile Pro 4/4




Mobile Pro 8/8


Contr. 4
Contr. 3
Contr. 2
Contr. 1
Contr. 8
Contr. 7
Contr. 6
Contr. 5
Contr. 12
Contr. 11
Contr. 10
Contr. 9
Contr. 16
Contr. 15
Contr. 14
Contr. 13

### 4.3.2 Connections on the switch box

Front view of the switch box for Mobile Pro 30/80 and Mobile Pro 30/500 variants:

Front view of the switch box for Mobile Pro 60/160 and Mobile Pro 60/500 variants::

Front view of the switch box for Mobile Pro 4/4 and Mobile Pro 8/8 variants::

- Description of the LEDs (front view):
  - ♦ PWR (green) power supply
  - ♦ STAT (green) status display, call through enabled
  - ♦ CTRL (orange) enable signal from call through service

Rear side:

**Lock switch**

The lock switch is used to enable and disable the call through system.

- Lock switch switched on (pressed)-> call through disabled (e.g. for maintenance work on Mobile Pro system).
- Lock switch switched off (not pressed)-> call through enabled (functions of Mobile Pro).

☞ Lock switch function of the switch box

When the switch box is de-energized or when the lock switch is pressed, the switch box connects the NT (trunk connection) directly to the PBX. If the lock switch is not pressed, the lines are routed to the Mobile Pro via the switch box and the control is transferred to the software (application) (normal operation). This mechanism is safeguarded by an additional watchdog function so that in the event of an error, all telephone calls can again be routed directly via the switch box if necessary. Depending on the error situation, this emergency mechanism can be triggered by the hardware or the software (e.g. power-off).

☞ Each time the lock switch is pressed, there is a brief interruption of the trunk line.

# 4.4 Mounting in the equipment locker

☞ The locker depth and screw connections of the 19" equipment locker may vary from manufacturer to manufacturer.

- Where applicable, contact the manufacturer of your equipment locker about the possibilities for installing rack-mounted units.
- If necessary, obtain suitable guide rails from the manufacturer of your equipment locker before installation begins.

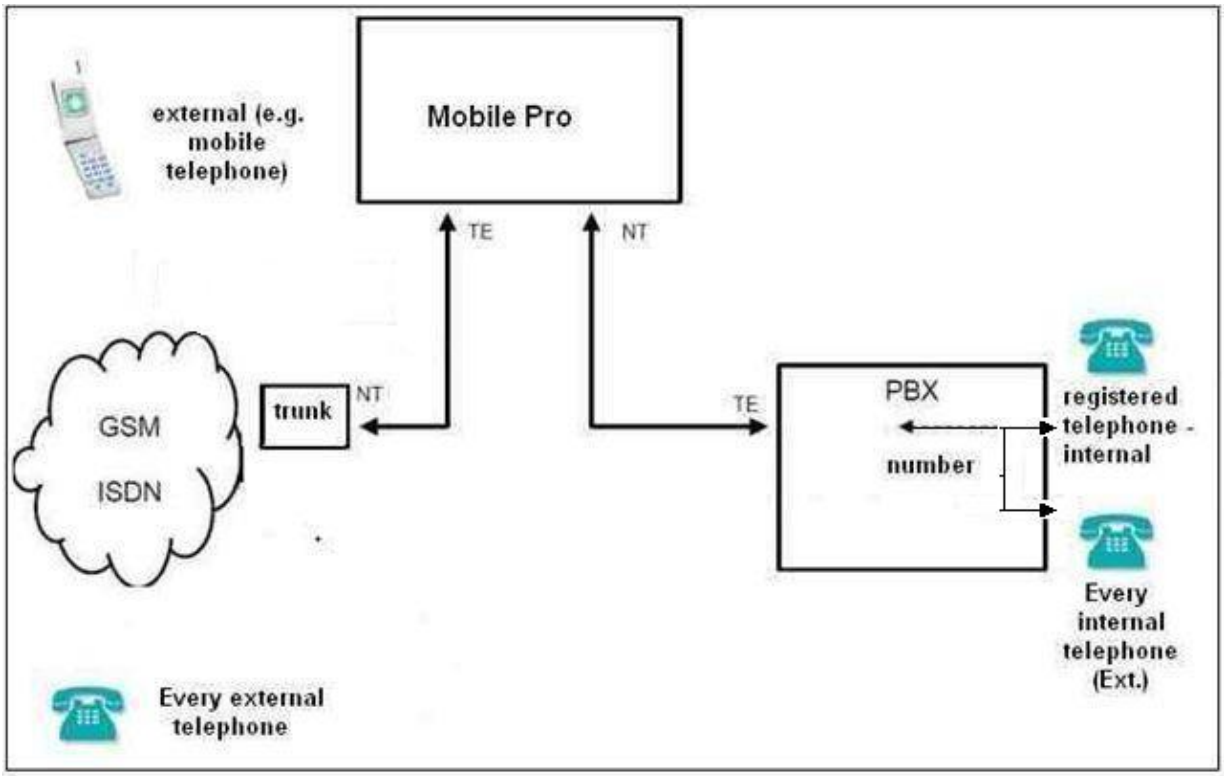
  ⚠ The cables plugged into the rear of the Mobile Pro must not be kinked under any circumstances. Therefore, note the locker depth when rack-mounting the unit.
- The switch box should be installed close to the NT connection.

# 4.5 Installing the Mobile Pro

The system is looped in between the NT termination and the PBX.

## 4.5.1 Connection assignment of the interfaces

Connection diagram

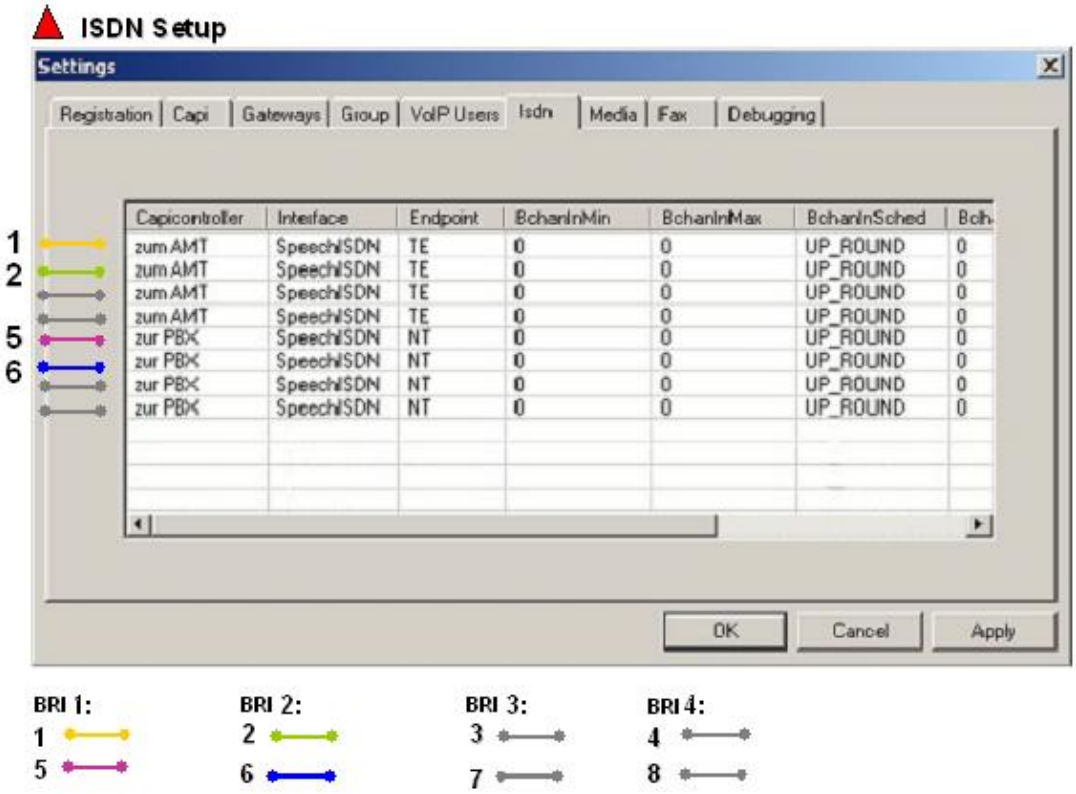


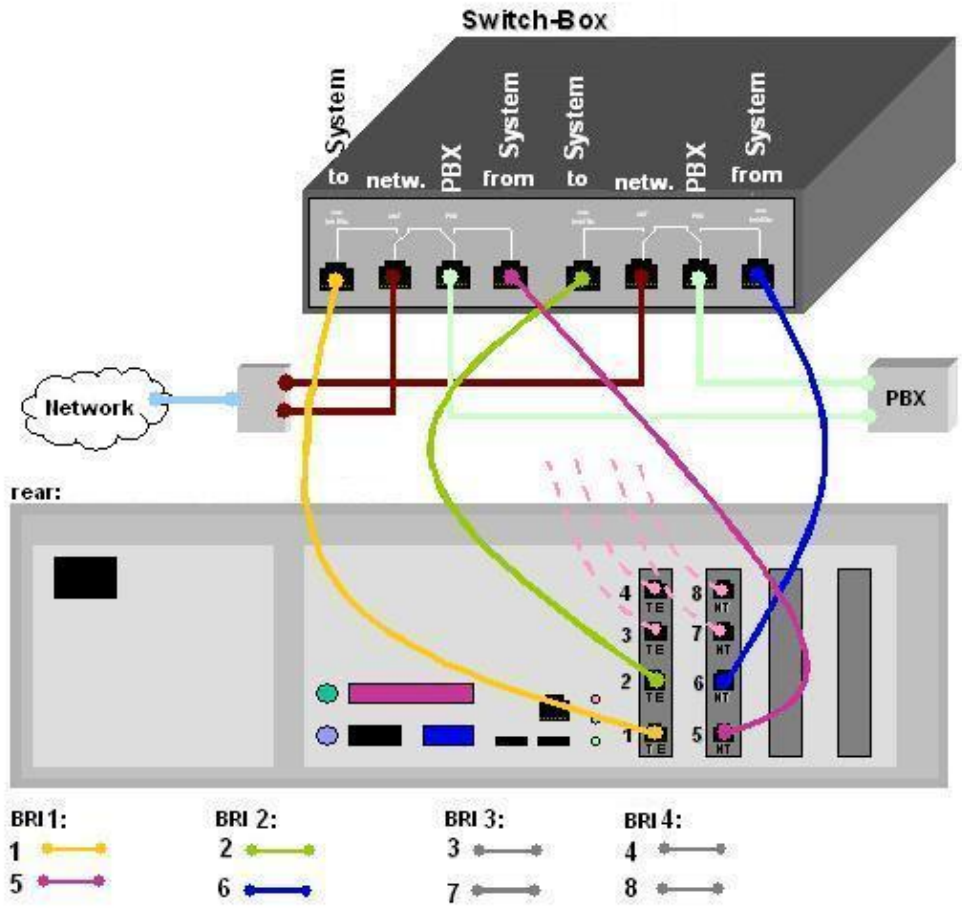

- ⚠ Each example shows the first two controler connections. All other cables have to be connected consecutively as shown in the examples.
- If not all ports are taken in the Mobile Pro-System, it is necessary to **deactivate** them in the ISDN Setup (e.g.: install Mobile Pro 60/500 but only use 1 x PRI or e.g.: install Mobile Pro 8/8 but only use 6 x BRI).

- It is **not** allowed to set any breaks in between the ports in the ISDN Setup nor in the controller. The sorting always beginns with the TE ports and ends with the NT ports.
- Following examples show the standard installation of Mobile Pro including the standard configuration in the ISDN Setup.

☞ In order to make the following examples more clearly we used coloured cables for the pictures. Delivered are grey patch cables.

#### 4.5.1.1 Mobile Pro 4/4



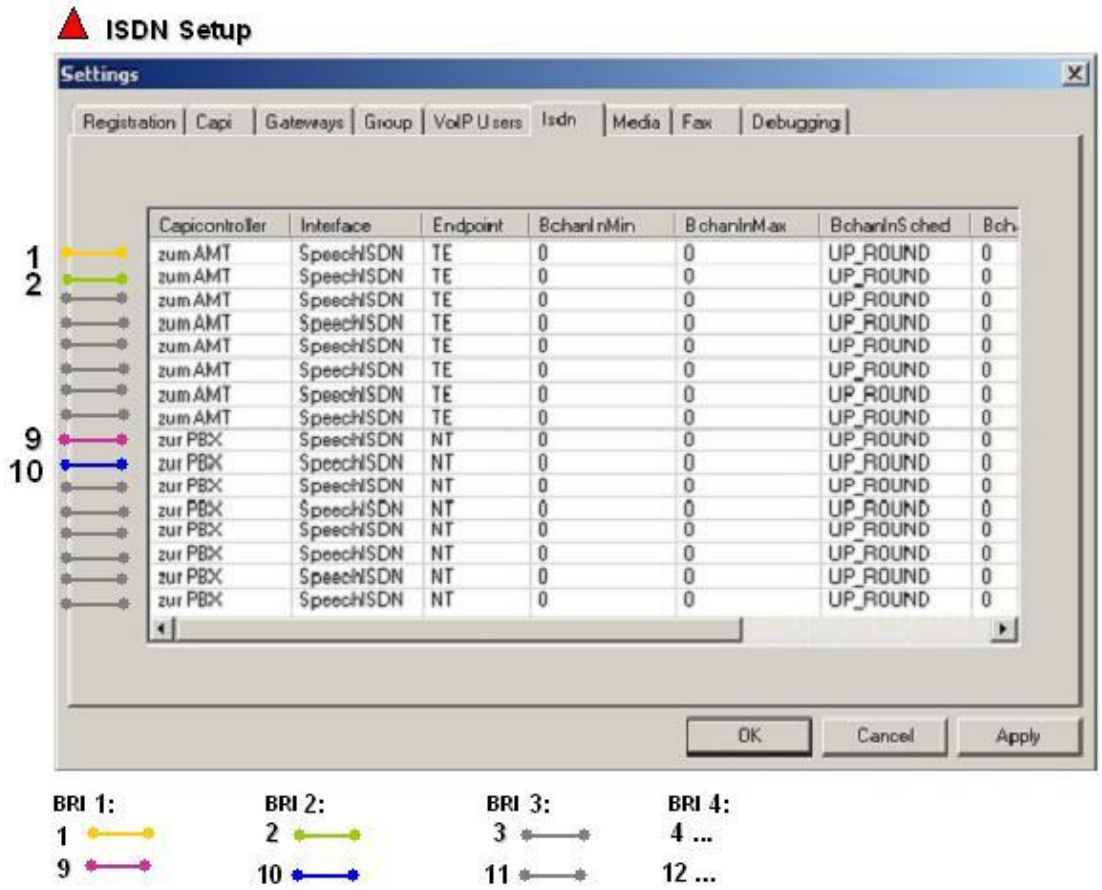



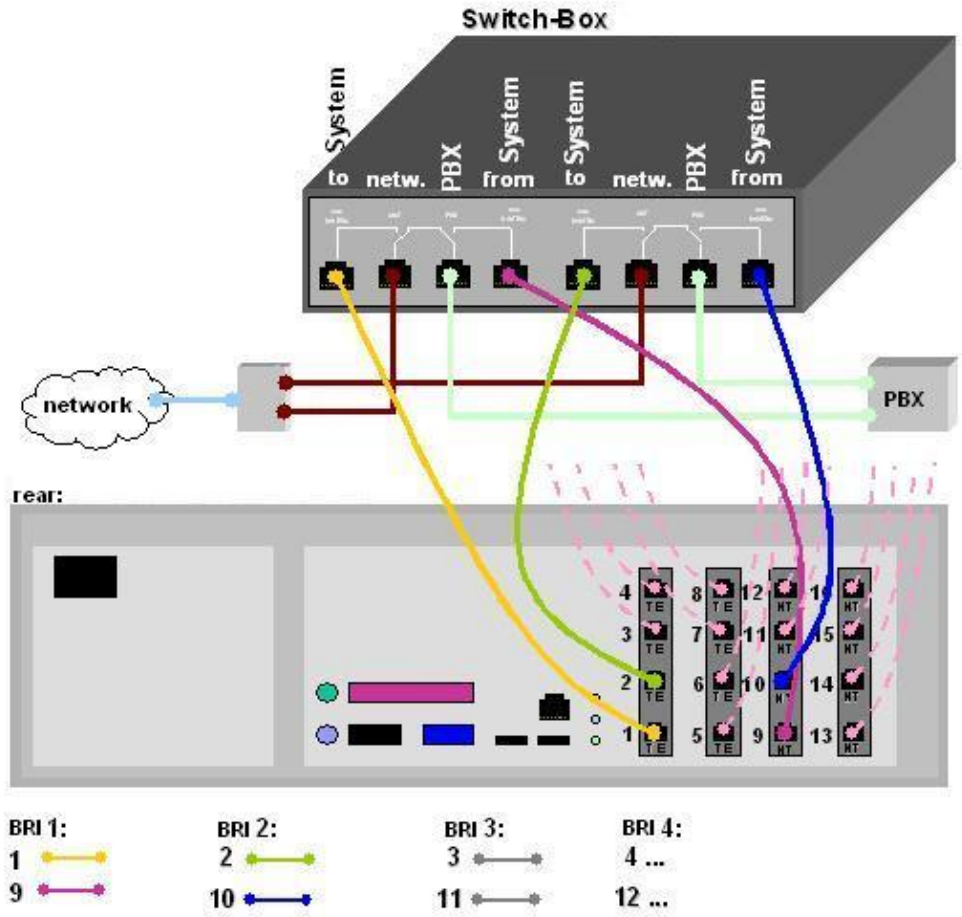
⚠ This is an example! Take care that there are set **no** any breaks either in between the ports in the ISDN Setup nor in the controller.!!

| | |
|---|---|
| > | Connect the PBX to port **PBX** |
| > | Connect the trunk to port **trunk** |
| > | Connect port **TO SYSTEM** with the first port (TE) |
| > | Connect port **from SYSTEM** with first port port (NT) |

⚠ The wires of the cable between switch box and Mobilen Pro must not be kinked under any circumstances.

#### 4.5.1.2 Mobile Pro 8/8



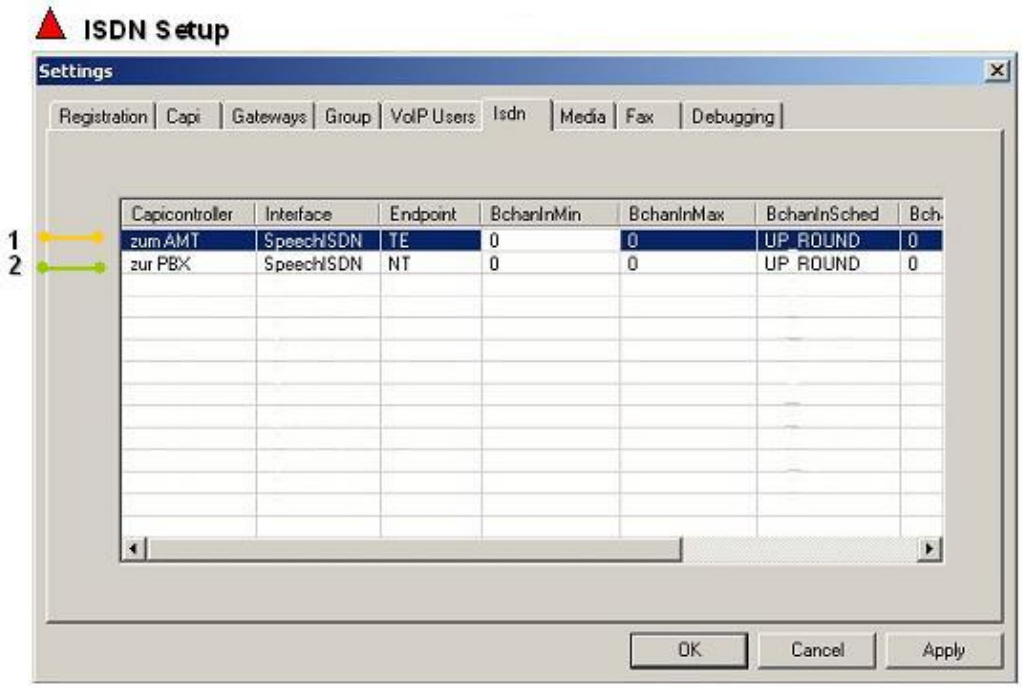



⚠ This is an example! Take care that there are set **no** any breaks either in between the ports in the ISDN Setup nor in the controller.!!

| | |
|---|---|
| > | Connect the PBX to port **PBX** |
| > | Connect the trunk to port **trunk** |
| > | Connect port **TO SYSTEM** with the first port (TE) |
| > | Connect port **from SYSTEM** with first port port (NT) |

⚠ The wires of the cable between switch box and Mobilen Pro must not be kinked under any circumstances.

#### 4.5.1.3 Mobile Pro 30/80 and Mobile Pro 30/500

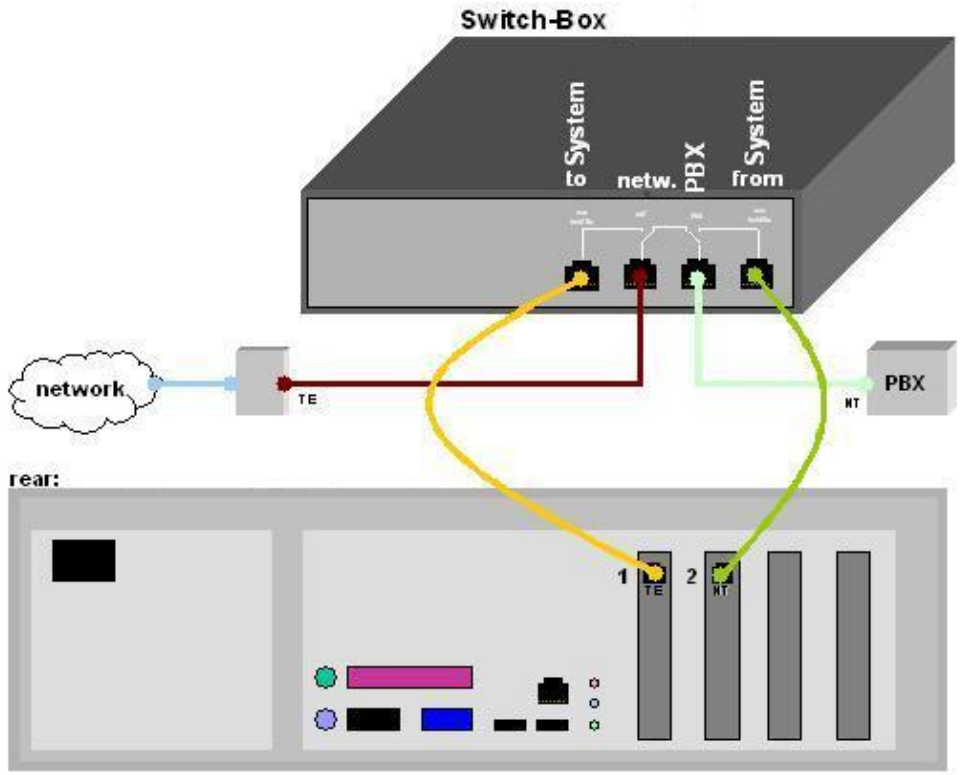



PRI 1:

1

2

---




PRI 1:

1

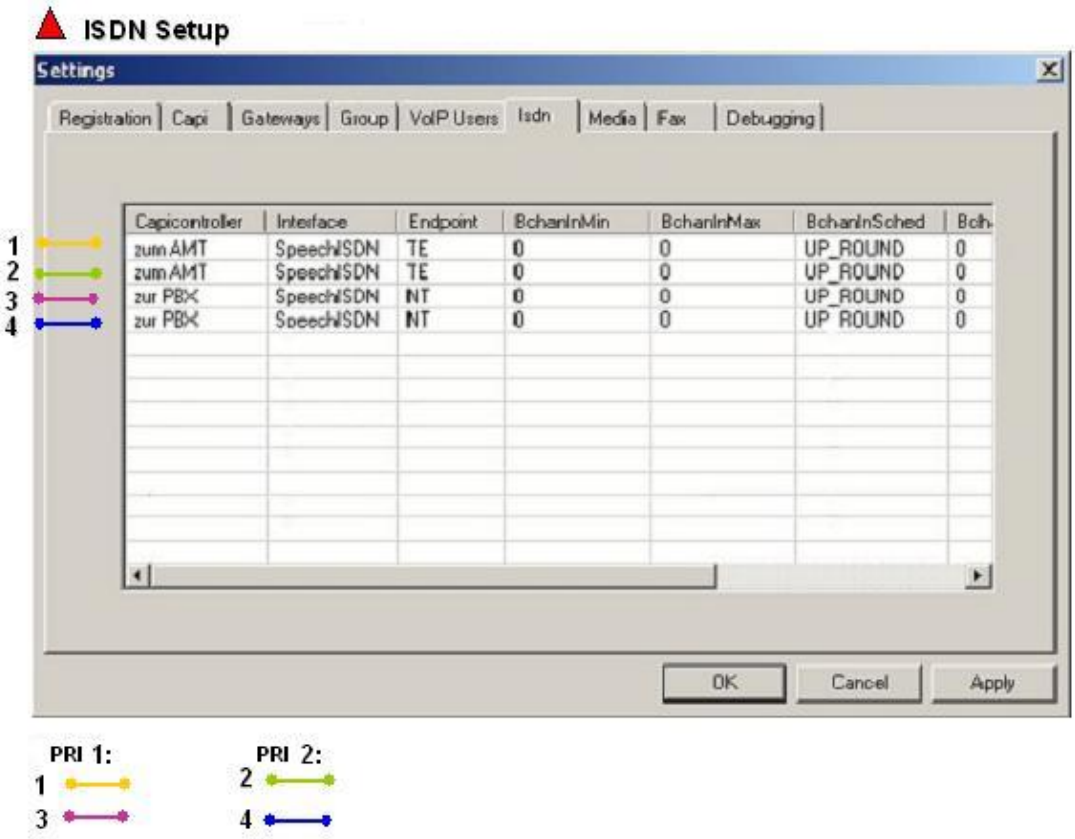
2

⚠ This is an example! Take care that there are set **no** any breaks either in between the ports in the ISDN Setup nor in the controller.!!

| | |
|---|---|
| > | Connect the PBX to port **PBX** |
| > | Connect the trunk to port **trunk** |
| > | Connect port **TO SYSTEM** with the first port (TE) |
| > | Connect port **from SYSTEM** with first port port (NT) |

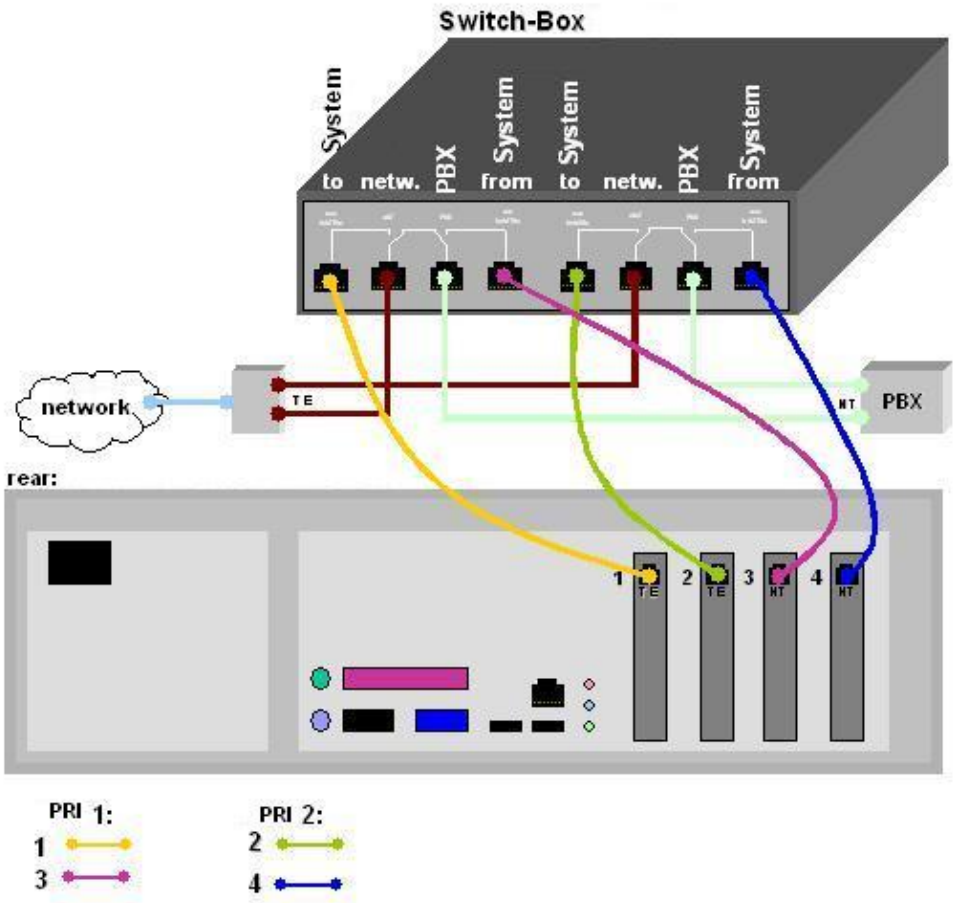
⚠ The wires of the cable between switch box and Mobilen Pro must not be kinked under any circumstances.

#### 4.5.1.4 Mobile Pro 60/160 und Mobile Pro 60/500




⚠ This is an example! Take care that there are set **no** any breaks either in between the ports in the ISDN Setup nor in the controller.!!

---

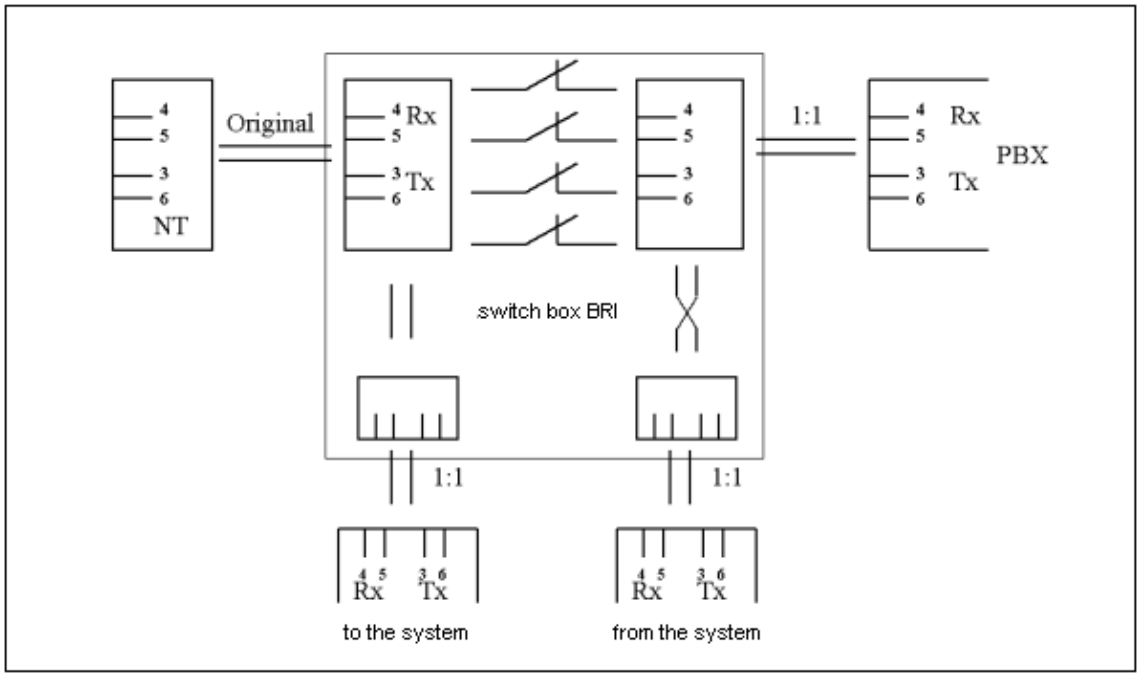



⚠ This is an example! Take care that there are set **no** any breaks either in between the ports in the ISDN Setup nor in the controller.!!

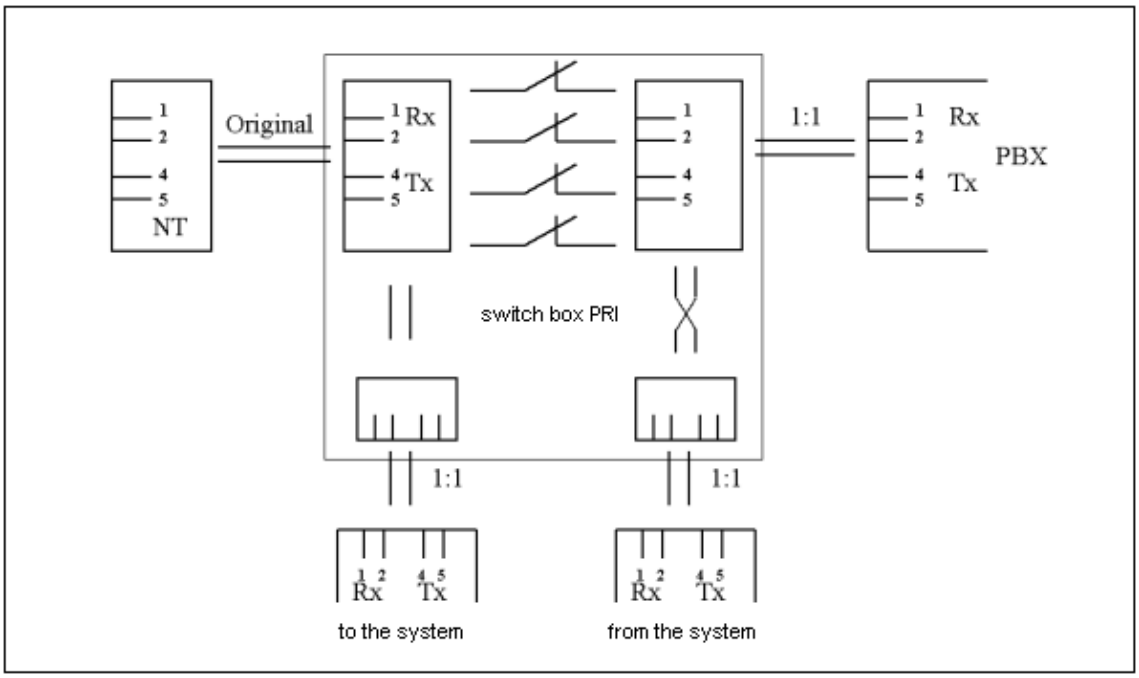
| | |
|---|---|
| > | Connect the PBX to port **PBX** |
| > | Connect the trunk to port **trunk** |
| > | Connect port **TO SYSTEM** with the first port (TE) |
| > | Connect port **from SYSTEM** with first port port (NT) |

⚠ The wires of the cable between switch box and Mobilen Pro must not be kinked under any circumstances.

#### 4.5.1.5 Simplified diagram in call through mode for BRI (S0):



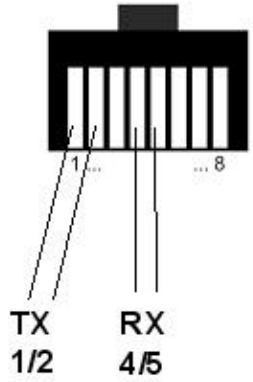

#### 4.5.1.6 Simplified diagram in call through mode for PRI (S2M):



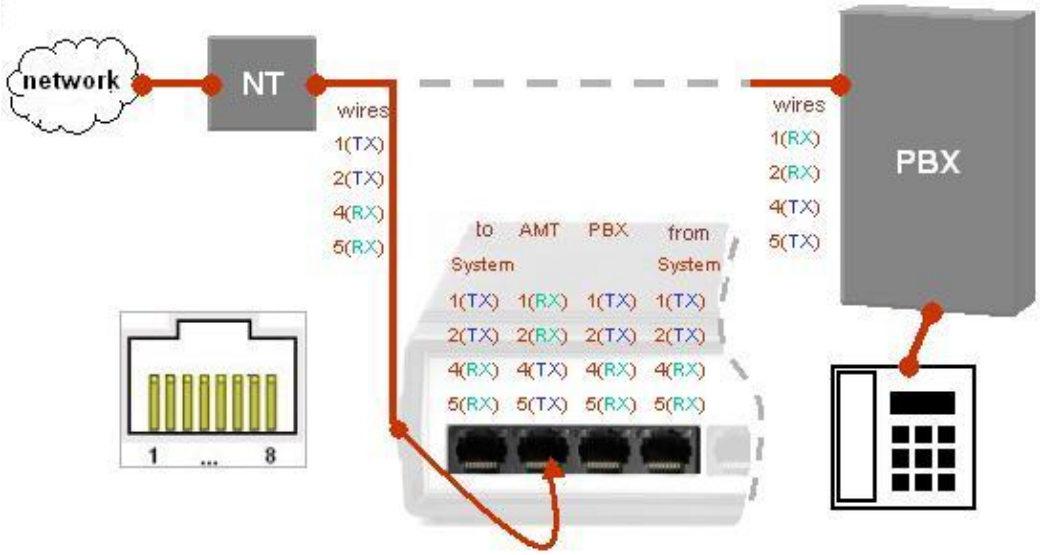

The following diagrams are showing the connection in customers infrastructure based on an example of PRI (S2M) connection:

⚠ If the cables are not routed correctly, the trunk may block the connection for 30 min.

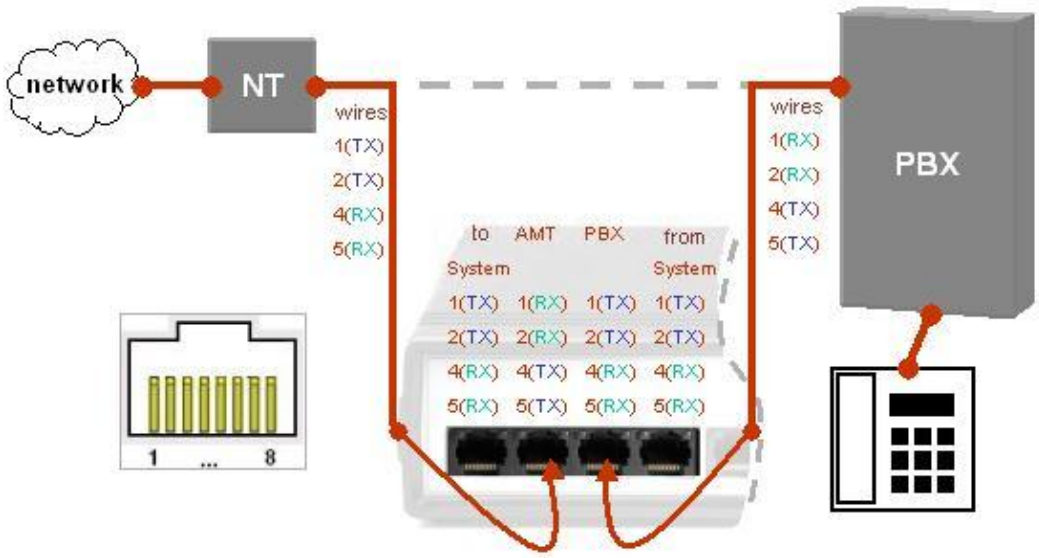
- Top view of RJ45 plug to PBX:



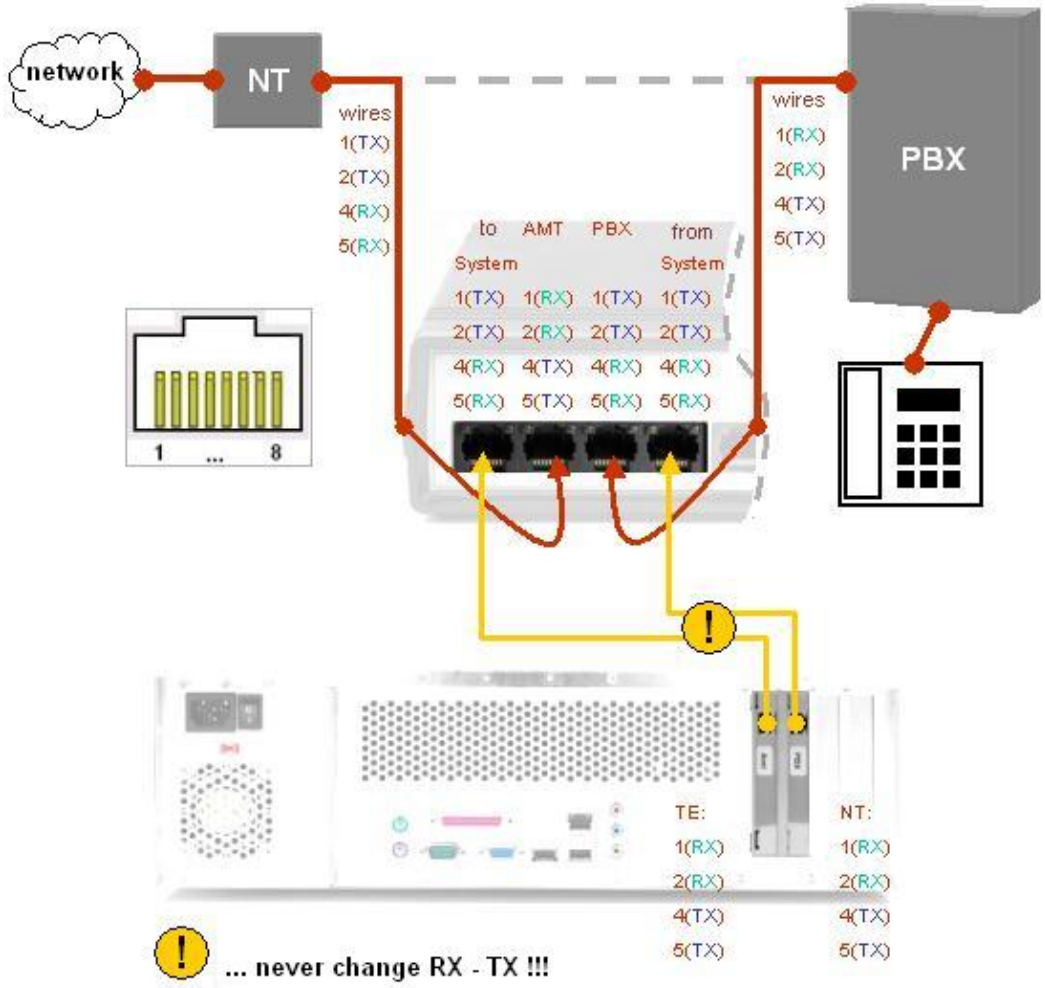

PRI (S2M)-connection switch-box to NT (trunk interface)



PRI (S2M)-connection switch-box to NT (trunk interface) and to PBX



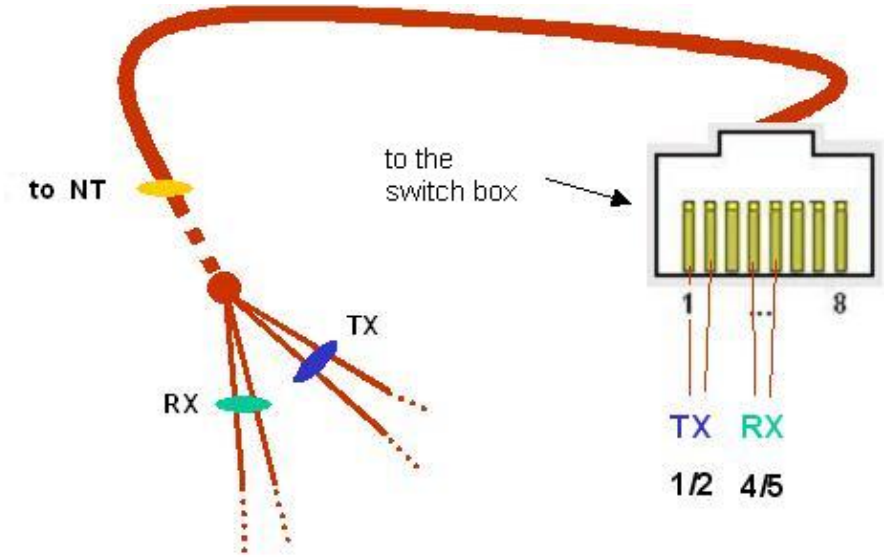

PRI (S2M)-connection switch-box to NT (trunk interface), to PBX and to Mobile Pro



⚠ Caution: Only use the delivered original cables!

**Terminal connection to NT**

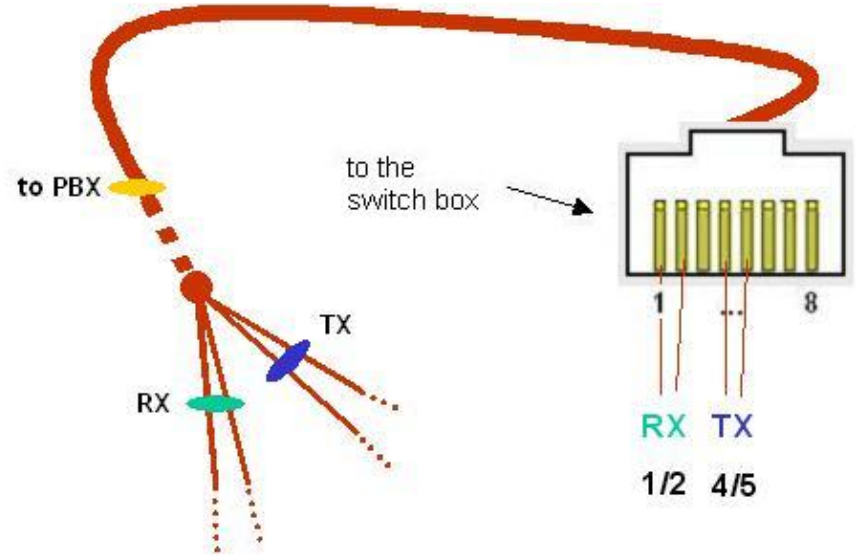
Terminal connection, if RJ45 is not available or assignment does not correspond to the illustration connection switch-box to NT:




| | |
|---|---|
| > | TX has to be connected to TX and RX to RX, towards NT-connection |

**Terminal connection to the PBX**

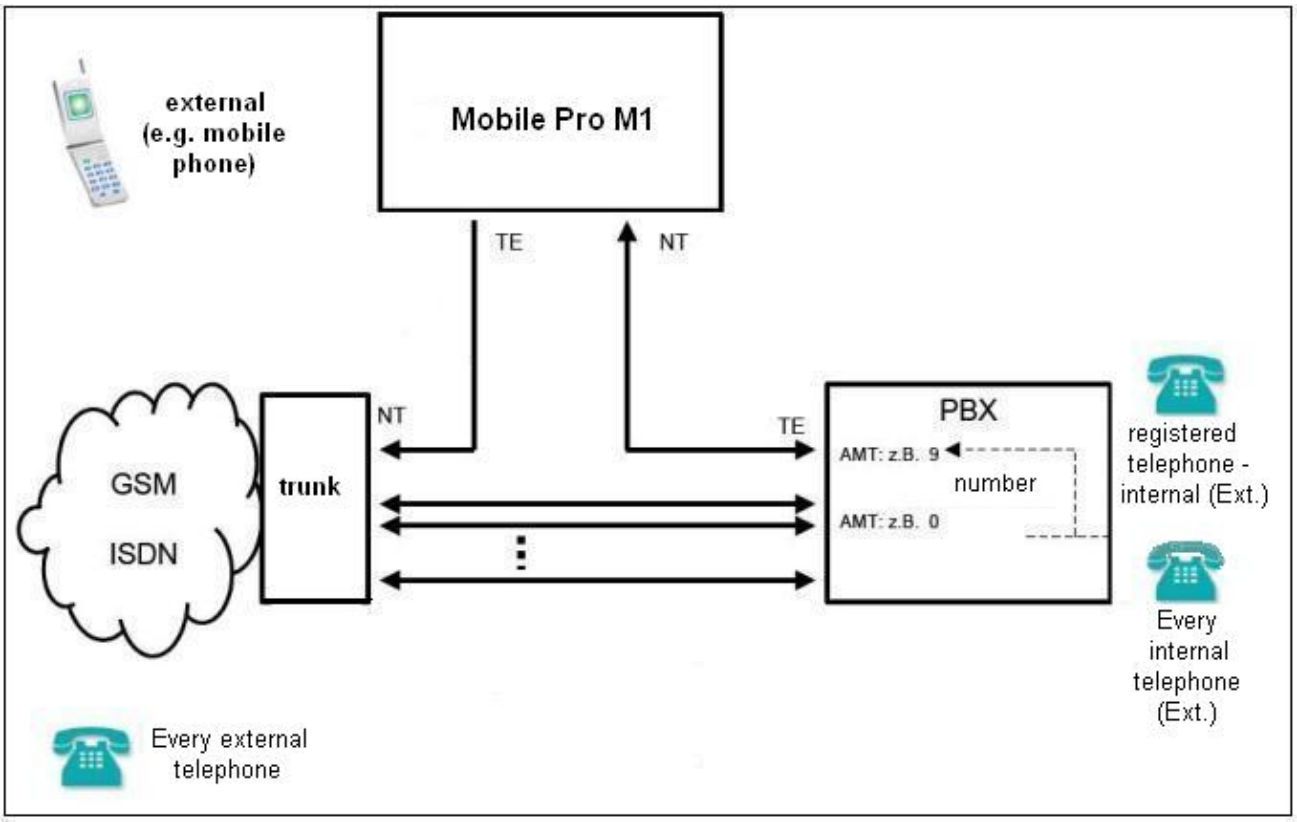
Terminal connection, if RJ45 is not available or assignment does not correspond to the illustration connection switch-box to NT:




| | |
|---|---|
| > | TX has to be connected to TX and RX to RX , towards PBX. |

# 4.6 Additional information about Mobile Pro M-Versions

## 4.6.1 Mobile Pro M1



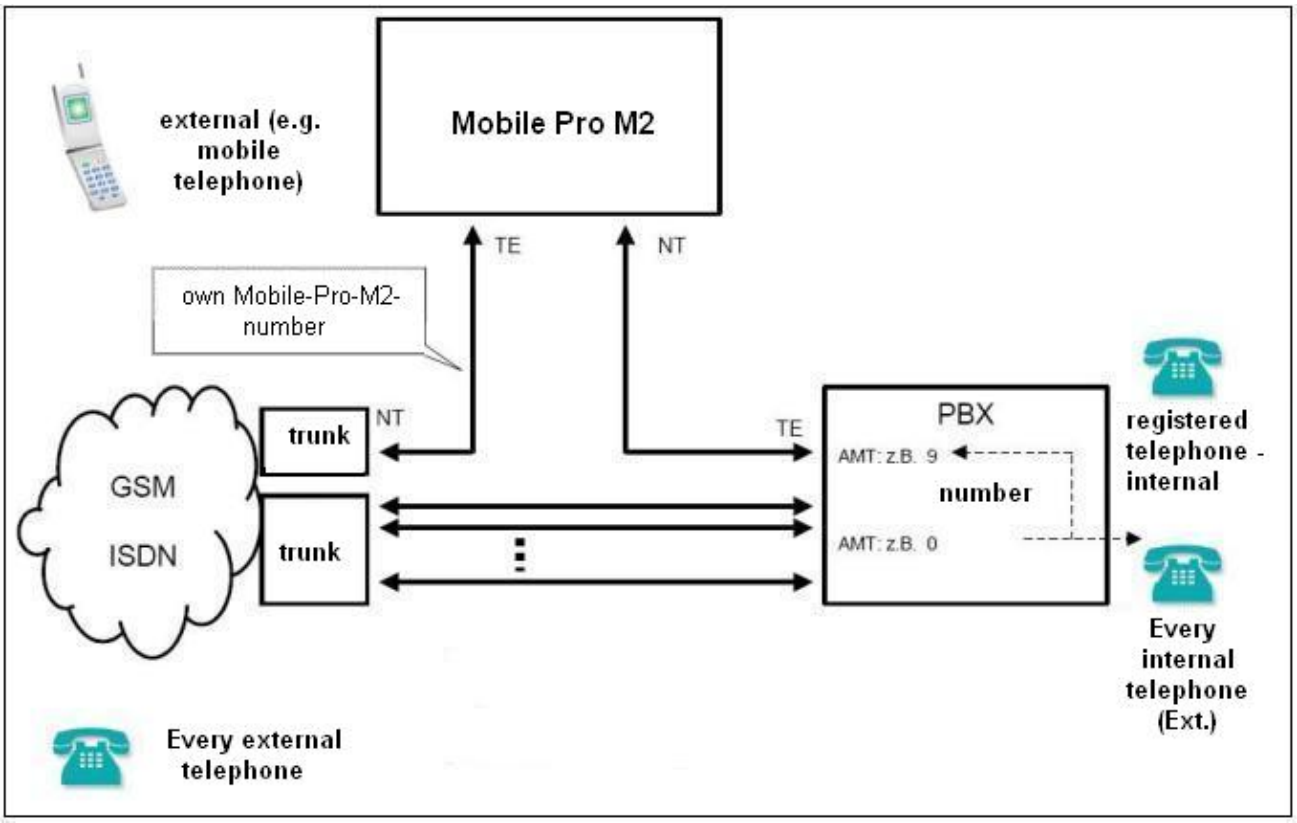

The installation of a Mobile Pro M1 version is always a project based business, which must be prepared in depth. For each customer a "numbering plan" has to be issued and programmed. Please see chapter "Numbering plan" for more information. The Mobile Pro M1 version needs a PRI trunk line which is configured exclusively for outgoing calls.

**Notes**

Compared to the "conventional" installation of Mobile Pro in all ISDN-lines between trunk interface and PBX following differences have to be considered:

1. Installation
   - ♦ Mobile Pro M1 has to be connected to a „separate“ PRI-line.
2. PBX
   - ♦ The separate PRI-line is assigned to a cross connections (as a "sub-PBX". E. g., can be reached with „9“)
   - ♦ For every Mobile Pro M1 user parallel signalling to "sub-PBX" + user Ext. (e.g. 9-317)has to be programmed.
   - ♦ Establish a transit option between trunk and "sub-PBX".
3. Trunk /network
   - ♦ The separate PRI-line must be configured only for "outgoing" calls.

## 4.6.2 Mobile Pro M2




The installation of a Mobile Pro M1 version is always a project based business, which must be prepared in depth. For each customer a "numbering plan" has to be issued and programmed. Please see chapter "Numbering plan" for more information. The Mobile Pro M2 version needs an own **bi-directional** PRI trunk (own trunk number/outside line number!).

**Notes**

Compared to Mobile Pro M1 resp. Mobile Pro there is just one difference to be considered:

1. Trunk / network
   - The separate PRI-line must be bi-directional with its own trunk number (outside line number).

# 4.7 Description of the installation procedure (to be clarified in advance)

## 4.7.1 Teleserver Mobile Pro system

1. Connect the switch boxes to the Mobile Pro system (see diagram).
2. Connect a laptop with the crossover cable provided or connect a mouse, keyboard and monitor directly to the Mobile Pro box.
3. Plug the power supply of Mobile Pro and the switch box.
4. Switch on the Mobile Pro. After service login (via VCN or via WBM)administrate the system and the basis configuration (RAS-settigns, numbering plans,...).
5. Check the configuration for the assignment of the B-channels (incoming/outgoing/bidirectional) in the trunk and configure the settings of Mobile Pro accordingly.
6. Set up the IP configuration (IP address, etc.) for web administration in the customer network.

☞ We recommend to configure a fixed IP address.

1. Perform a restart of the Mobile Pro box.
2. Press the lock switch (at the rear of the switch box) to loop in Mobile Pro in the NT-PBX line.
3. Set up a subscriber (extension, mobile phone).
4. Mobile Pro test sequence:
    a. Call the Mobile Pro extension from an external number -> extension and the registered mobile phone must ring

        ◊ -check displayed number and take the call.

    b. Dial an external target from the Mobile Pro extension -> target must ring.

    c. Call from a registered mobile phone the according registered Mobile Pro extension -> entry into main menu.

    d. Call from a registered mobile phone any extension -> check displayed number = Must be extension number of the user, *not* his mobile number.

    e. Call from any internal extension a registered (Mobile Pro-) extension -> Mobile Pro extension and activated call forwarding target (e.g. mobile phone) must ring (Caution: for internal calls the registered extension must be re-routed to its own Mobile Pro account). f. Test the functional phone numbers (callback, etc.).
5. Test the remote access, afterwards change the Windows administrator password.
6. Perform a backup of the settings.
7. Explain to customer's administrator the WEB access of the system and change the password.
8. If desired: Configure the settings for e-mail delivery.
9. For further administration please explain the backup and restore function to the customer.

### 4.7.2 FMC Mobility Client

For details on installing and using the FMC Mobility Client software, refer to the FMC Mobility Client manual.

# 5 Commissioning

## 5.1 Switching on/off

### 5.1.1 Switching the switch box on/off

The switch box is switched on and off by plugging in/unplugging the power supply.

| | |
|---|---|
| > | Switch on the lock switch (pressed) to disable the call through system during commissioning. |

### 5.1.2 Switching Mobile Pro Mobile Pro on/off

Switch the device on/off using the button on the front side only! To switch off, press and hold the button for approx. 3 sec. Mobile Pro Mobile Pro shuts down automatically. Do not unplug the power plug until the green operation LED has gone out (after approx. 30 seconds) so that the device can shut down properly.

## 5.2 Service Access

For commissioning, there are two 2 options for the service access:

- Using the desktop/laptop computer
- Directly on the system

### 5.2.1 Service access using the desktop/laptop computer

Network connection using crossover cable

For the service access with your desktop/laptop, you need VNC client software and a crossover cable (see Scope of delivery]).

| | |
|---|---|
| > | Change the IP address of your desktop/laptop to 10.0.0.2 and the subnet mask to 255.0.0.0. |
| > | Connect your desktop/laptop with the Mobile Pro and use the cable specified above! |
| > | Start VNC and enter the IP address 10.0.0.10 (default factory setting). |
| > | Enter the password "service" (case-sensitive) to gain access. |

*You now see the desktop of the Mobile Pro and can log in to the system as described in the following section.*

### 5.2.2 Service access directly at the system

You can also obtain service access by connecting a keyboard, mouse and monitor directly to the Mobile Pro.

⚠ The keyboard, mouse or monitor may be plugged in or unplugged only if the Mobile Pro is switched off and the power plug is disconnected. Otherwise, malfunctions of or damage to the Mobile Pro or connected devices may result.

| | |
|---|---|
| > | Connect the monitor, mouse (PS/2) and keyboard (PS/2) to the rear side of the Mobile Pro. |
| > | Connect the power plug to the power supply. |
| > | Switch on the Mobile Pro and the monitor. |

*The Mobile Pro boots up. The Windows login dialog appears.*

| | |
|---|---|
| > | Login as the administrator:<br>`Username` ***Administrator***, `Password` ***mobilepro*** |

*You now see the desktop of the Mobile Pro.*

## 5.2.3 Service access via ISDN (remote)RAS

- Login in WBM as administrator and select menu "Service Settings".
- Compelte the "RAS setting" fields.

To get remote access:

| | |
|---|---|
| > | Enter the RAS number to establish a data remote transmission |
| > | Start the VNC-Viewer and enter **10.0.0.1** in "Server" field |
| > | In field "Password": set **service** |

### 5.2.3.1 Optimized functionality

Instead of an ISDN-connection it is also possible to establish a LAN-connection as RAS (remote access service).

### 5.2.3.2 Add on information to RAS-dial in with Mobile Pro M1

An "external" RAS-access is not possible with Mobile Pro M1. The call direction has to be turned around. In total there a three support-units which can be dialled (level-1, level-2 and level-3). Each level unit has to be configured independtly (RAS Dial).

To start the remote-access call the administrator user number and enter the TUI service PIN. Afterwards enter the key digits according to the row in the RAS Dial (e.g.: row 1 = key digit 1, ...), in which the desired name/number is listed.

## 5.2.4 Service >> Filemanager

Using the Mobile Pro file manager, you can upload and download files using the web browser without having access to the web administration of the system.

To access the file manager, first establish a connection from your desktop/laptop to the Mobile Pro (refer to the section "Service access with the desktop/laptop").

So that you can access the corresponding files, first copy them into the following directory under this path:

`C:\Program Files\FMCgatewaySuite\Files`

(The link `Service-Filemanager` is on the desktop).

Double-click the link `OctopusMobile-Filemanager` (Internet Explorer link); a browser window appears that shows the contents of the "Files" folder.

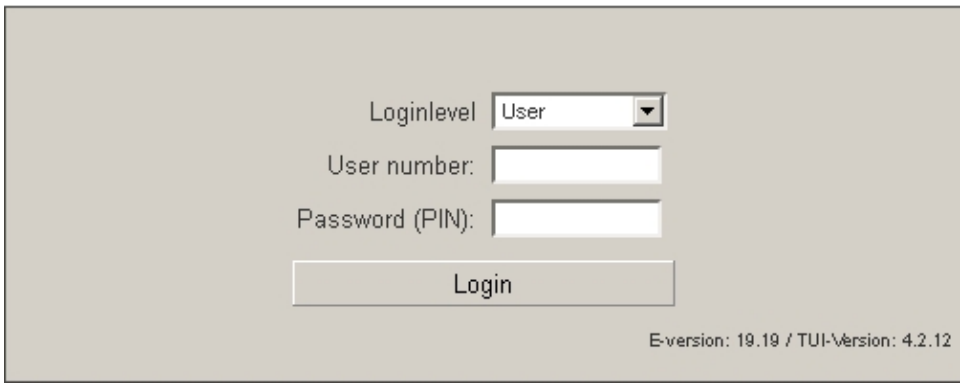
- Upload: Upload files with "Browse" and "Upload".
- Download: Select a file and and store it any folder.

For service access via ISDN ((remote access service)), the download to your desktop/laptop takes place automatically.

## 5.3 Access for User and Administrator

1. Log-in

- User

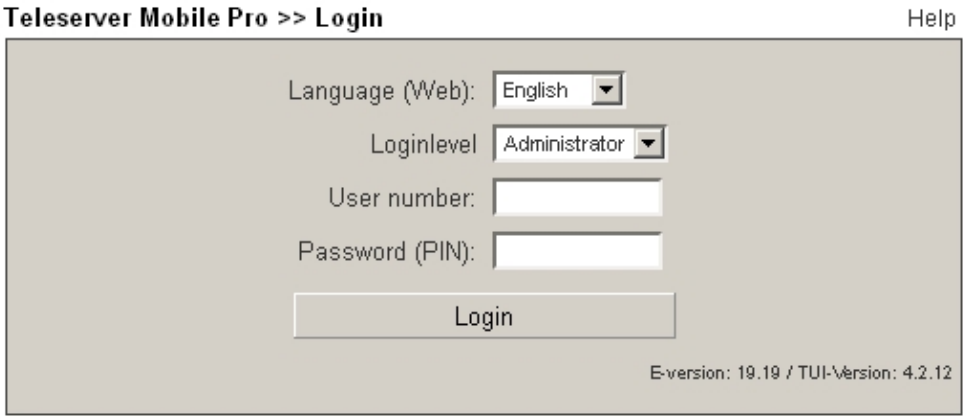



User password (default): 1234

Here, the user can enter his user number (extension number) and his code number to get access to the web user interface. The user can then change his settings via web.

Further information for the user are available in user manual or online help.

- Administrator




Admin password (default): 1234

- Administrator - menu - overview

| |
|---|
| Administrator |
| System parameters |
| Numberingplan |
| e-mail |
| User rights level |
| Functional phone numbers |

**User administration**

| |
|---|
| User overview |
| New user |

**Music on Hold**

| |
|---|
| Selection |
| Upload |

**Service**

| |
|---|
| Service Settings |
| RAS Dial |
| System information |
| Logfiles |
| Backup |
| Restore |
| Reset |
| Filemanager |

**Logout**

---

Further information for the administrator are available in administrator manual or online help.

- Public

Public is 'open' for everybody without any user number or password. See chapter "Public Services"

# 6 System settings

## 6.1 Numbering plan

The numbering plan enables you to fit the Called Num and Calling Num individually. For a regular installation, the numbering plan must not be edited. For futher information see chapter Numbering plan in detail at the end of this document.

### 6.1.1 WEB programming:

1. Create numbering plan

Log in as "Administrator" is requisited.

---

**System administration**

| |
|---|
| Administrator |
| System parameters |
| Numberingplan |
| e-mail |
| User rights level |
| Functional phone numbers |

**User administration**

| |
|---|
| User overview |
| New user |

**Music on Hold**

| |
|---|
| Selection |
| Upload |

**Service**

| |
|---|
| Service Settings |
| RAS Dial |
| System information |
| Logfiles |
| Backup |
| Restore |
| Reset |
| Filemanager |

**Logout**

| | |
|---|---|
| > | Select a template |
| > | Complete the empty fields accordingly |
| > | Click >>Save and create numbering plan<< |

All values which you have entered into the system before are transferred automatically into the selected template. To save modifications or to create further new rules proceed as follows:

## 6.1.2 Example

| **Create numbering plan** | **User data** |
|---|---|
| Template: | Please select |
| National Prefix: | 0 |
| International Prefix: | 00 |
| Country code: | 49 |
| Area code: | 89 |
| Phone number PBX : | 89455 |
| Number for an outside line: | 0 |
| Alternative dial in number | 011 |
| length of extension number (max): | 3 |

Press the button "Save and create numerbing plan" all entered values are tranferred into the selected tamplate.

In individual case

- Change numbering plan for incoming calls
- Change numbering plan for outgoing calls
- Change numbering plan for dialling and GUI input

# 7 Traces & Logfiles, DST- Dienste der Durchschleiftechnik

## 7.1 Traces

### 7.1.1 Voice 4 Server trace

Voice 4 Server is very useful for troubleshooting in real time.

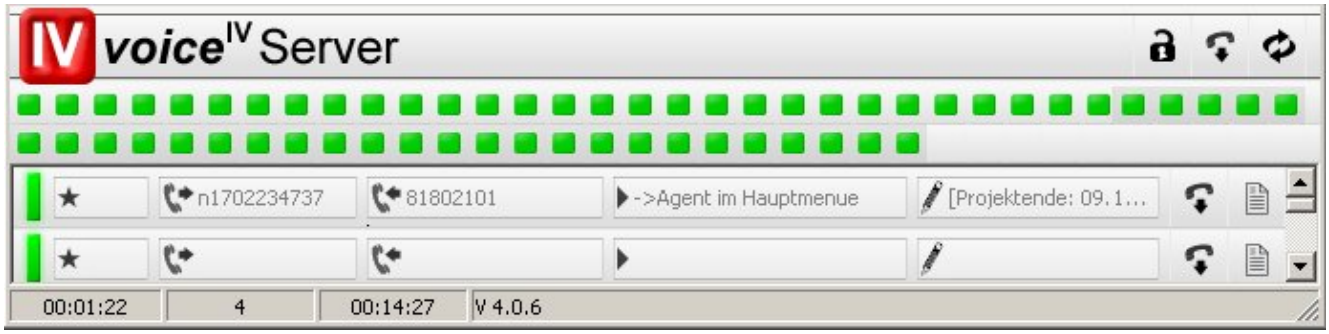
It displays phone numbers (Calling, Called Party Number) and the currently executed functions.

Example 1:

A user is set up in Mobile Pro as follows:

| **User administration >> Georg Mark >> User data** | |
|---|---|
| First name: | Georg |
| Last name: | Mark |
| Department: | Service |
| Password (PIN): | 1234 |
| User number: | 101 |
| Language: | German |
| Displayed number at called party: | 08981802101 |
| Mobile phone: | 01708024737 |

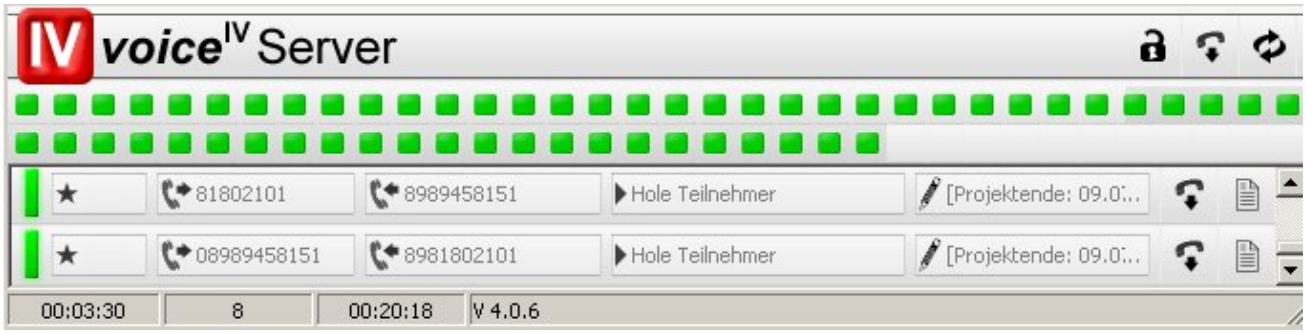
- Action 1:
  - ♦ Call into the main menu.
  - ♦ Call from the mobile phone (0170-802 47 37) to the fixed-line number (089-81802-101)




- Column 1: Channel
- Column 2: Calling Number (number of the caller)
- Column 3: Called Party Number (dialed number)
- Column 4: Function (agent in the main menu)

Information: The green fields which are shown top in the picture, change their colours depending on the status:
* Red = active (calling) status
* Green= passive (idle) status (the appropriate row shows the last actions)

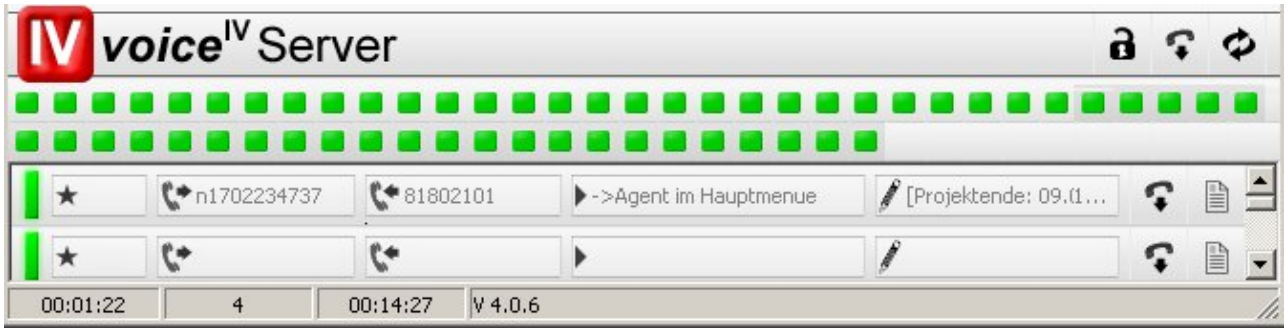
- Action 2:
    - ♦ Selection from the main menu. The phone number (089-89458-151) is dialed.




- Column 1: Channel
- Column 2: Called Party Number
- Column 3: Calling Number
- Column 4: Function (connection is established)

Example 2:

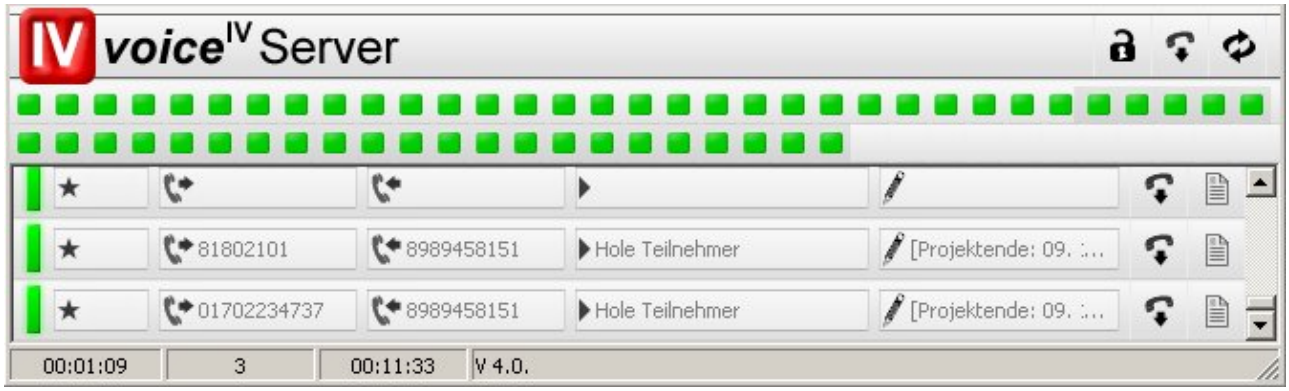
- Action 1:
    - ♦ An external call (phone number 089-89458-0) is placed from the local exchange to the phone number (089-81802-101).




- Column 1: Channel
- Column 2: Calling Number
- Column 3: Called Party Number
- Column 4: Function (assignment of the first B-channel)

- Action 2:

Because call forwarding is activated for user "101" (extension 101), the extension "101" and, at the same time, the current call forwarding target number, mobile phone number "0170-2234737", is called.


voice IV Server
81802101
8989458151
Hole Teilnehmer
[Projektende: 09. :...
01702234737
8989458151
Hole Teilnehmer
[Projektende: 09. :...
00:01:09
3
00:11:33
V 4.0.

- Row x-yy/yy:
- Column 1: Channel
- Column 2: Called Party Number
  - > Extension "101" and mobile phone "0170-2234737" are called simultaneously.
- Column 3: Calling Number
- Column 4: Function (extension "101" and mobile phone number "0170-2234737" are called simultaneously.

By clicking the document icon, you can view the detailed contents of the functions you have just carried out.

### 7.1.2 ISDN Traces

Zur Durchführung eines ISDN-Trace stehen Ihnen drei .bat-Dateien zur Verfügung: ( Desktop rechts oben )

- ISDN-L1.bat (Layer 1)
- ISDN-L2.bat (Layer 2)
- ISDN-L3.bat (Layer 3)

To start the respective batch file,

| | |
|---|---|
| > | double-click the corresponding file icon and acknowledge with "y" "Enter" |
| > | To end the trace, select "e" and "Enter". |

The trace file is located in the following path:

```
C:\Program Files\DSTService\log\l1.trc
```

- `\l2.trc`
  `\l3.trc}`

## 7.2 Occupied time table

To provide information about the utilization of the system, the following files are available in the `DST-Service-Log-Files` directory (desktop):

- Occupied time table_NT.stat
- Occupied time table_TE.stat

For evaluation, import these into the Excel file: `Occupied time table_XX.xls`

## 7.3 Log files

In the default setting, two log files are generated each month:

- DSTService log file
- MobilePro log file

The links to the corresponding folders are on the desktop.

MobilePro log files:

Calls set up by the Mobile Pro are stored here.

The Call through Service log file stores calls set up by the call through (DST) service.

These files can be imported and displayed by the excel-file "jjjjmmtt.log.xls (is available in the same directory). To work on the logfile and on the excel-file, please copy both on your PC/notebook with Microsoft Office.

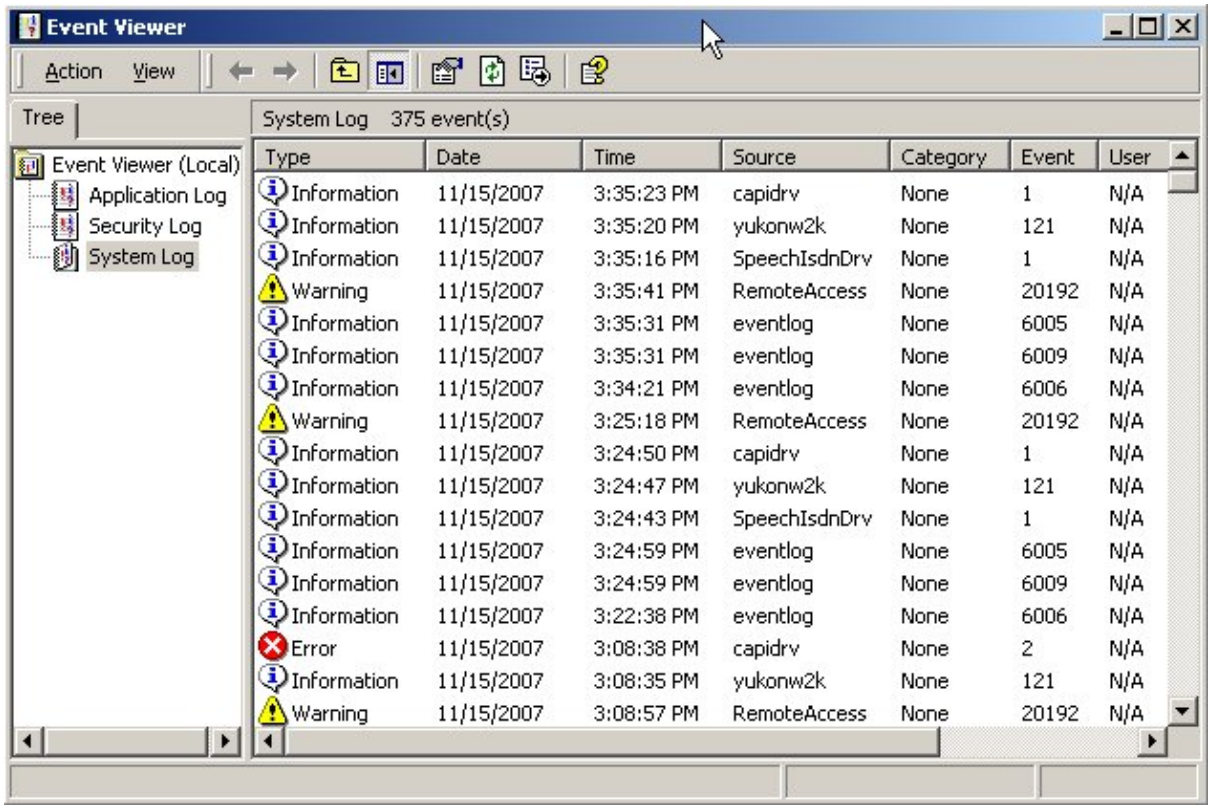
## 7.4 Event Viewer

The Windows event log (application log) shows information such as status displays regarding layer 1/2 as well as various information and error messages.

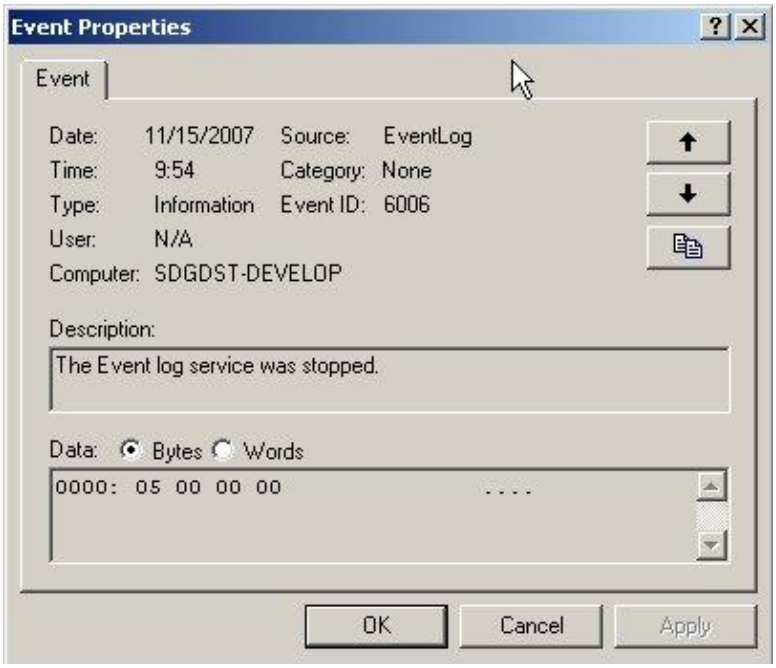
Possible entries in the Windows event log:

- MessageId=1000, DST service was started, version
- 1MessageId=1001, DST service start failure, code
- MessageId=1010, capi2032.dll failure, code
- MessageId=1011, Capi version
- MessageId=1012, Capidrv version
- MessageId=1013, Speech-Design ISDN driver version
- MessageId=1020, Controller 1: Layer 1 NT, red alarm (to PBX)
- MessageId=1021, Controller 1: Layer 1 TE, red alarm (to NT)
- MessageId=1022, Controller 1: Layer 1 NT, yellow alarm (to PBX)
- MessageId=1023, Controller 1: Layer 1 TE, yellow alarm (to NT)
- MessageId=1024, Controller 1: Layer 1 NT, line up (to PBX)
- MessageId=1025, Controller 1: Layer 1 TE, line up (to NT)
- MessageId=1030, Controller 1: Layer 2 NT, link established (to PBX)
- MessageId=1031, Controller 1: Layer 2 TE, link established (to NT)
- MessageId=1032, Controller 1: Layer 2 NT, link released (to PBX)
- MessageId=1033, Controller 1: Layer 2 TE, link released (to NT)
- MessageId=1081, File access failure:
- MessageId=1089, Internal failure text:
- MessageId=1098, DST service was stopped by system shutdown
- MessageId=1099, DST service was stopped

Example:


Event Viewer
Action View
Tree
System Log 375 event(s)
Event Viewer (Local)
Application Log
Security Log
System Log
Type Date Time Source Category Event User
Information 11/15/2007 3:35:23 PM capidrv None 1 N/A
Information 11/15/2007 3:35:20 PM yukonw2k None 121 N/A
Information 11/15/2007 3:35:16 PM SpeechIsdnDrv None 1 N/A
Warning 11/15/2007 3:35:41 PM RemoteAccess None 20192 N/A
Information 11/15/2007 3:35:31 PM eventlog None 6005 N/A
Information 11/15/2007 3:35:31 PM eventlog None 6009 N/A
Information 11/15/2007 3:34:21 PM eventlog None 6006 N/A
Warning 11/15/2007 3:25:18 PM RemoteAccess None 20192 N/A
Information 11/15/2007 3:24:50 PM capidrv None 1 N/A
Information 11/15/2007 3:24:47 PM yukonw2k None 121 N/A
Information 11/15/2007 3:24:43 PM SpeechIsdnDrv None 1 N/A
Information 11/15/2007 3:24:59 PM eventlog None 6005 N/A
Information 11/15/2007 3:24:59 PM eventlog None 6009 N/A
Information 11/15/2007 3:22:38 PM eventlog None 6006 N/A
Error 11/15/2007 3:08:38 PM capidrv None 2 N/A
Information 11/15/2007 3:08:35 PM yukonw2k None 121 N/A
Warning 11/15/2007 3:08:57 PM RemoteAccess None 20192 N/A

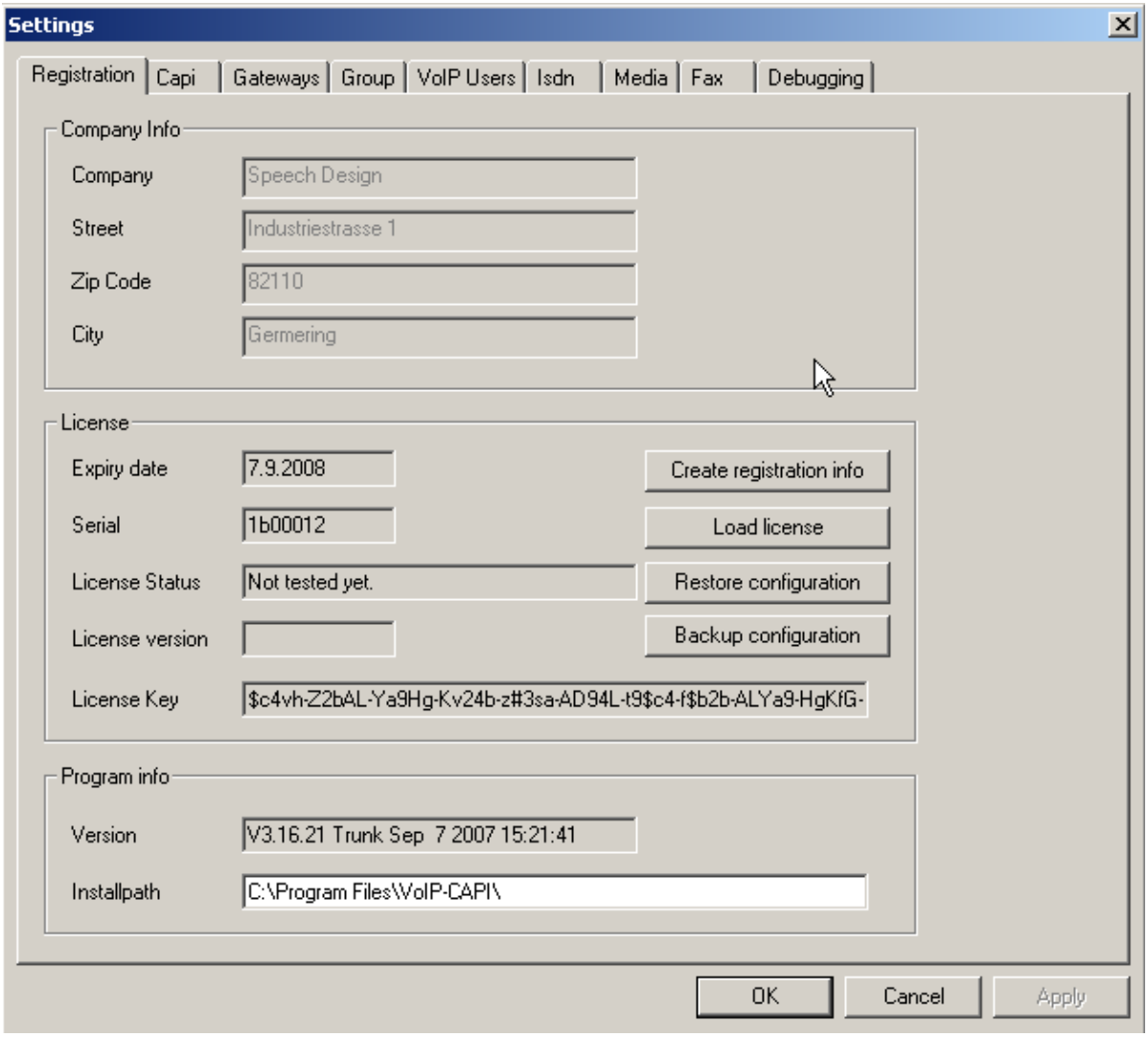
Example: View after double-clicking "{i} Information":



## 7.5 ISDN setup

☞ Change the following settings only after consulting with Speech Design Service.

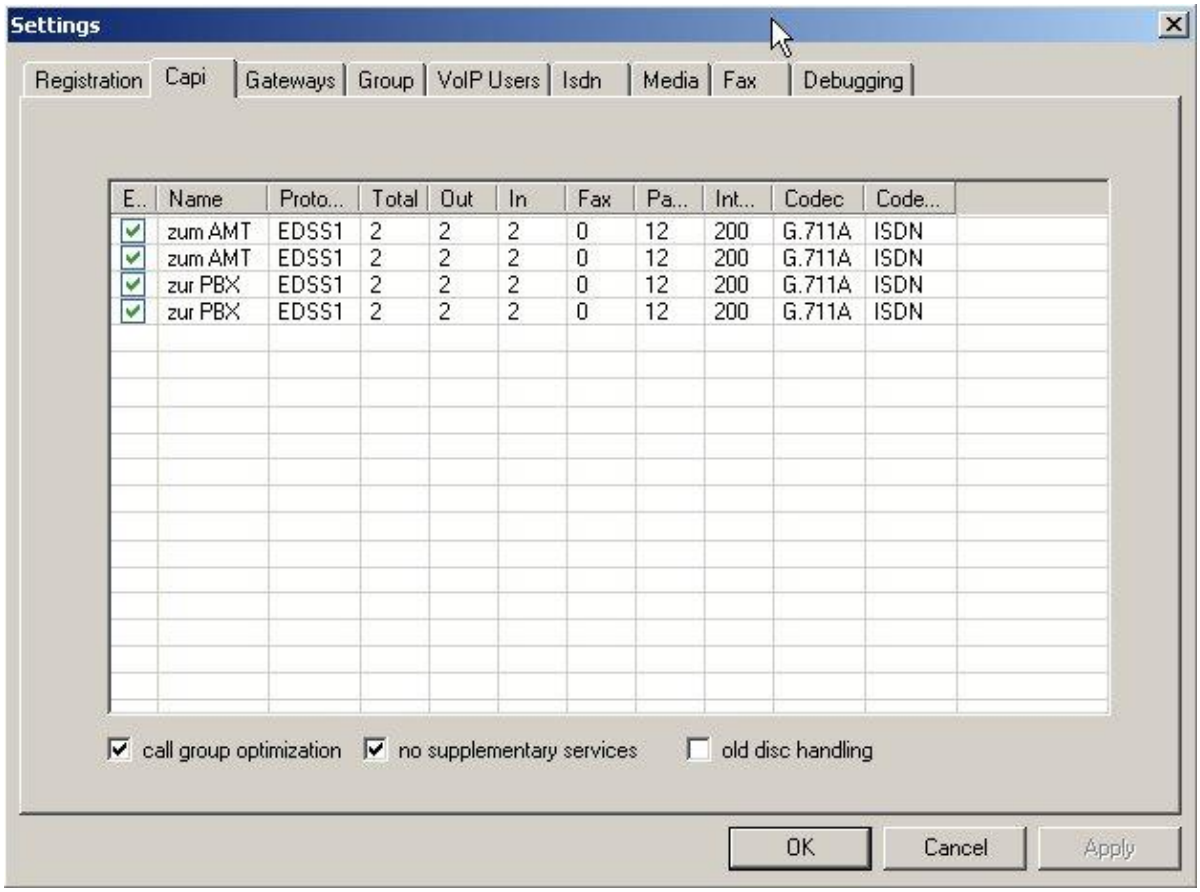
Using the link ISDN setup (Desktop/ISDN setup), you can change Capi settings.




☞ We propose to make a backup of the default settings bevore saving any changes.

### 7.5.1 Reducing the number of controllers

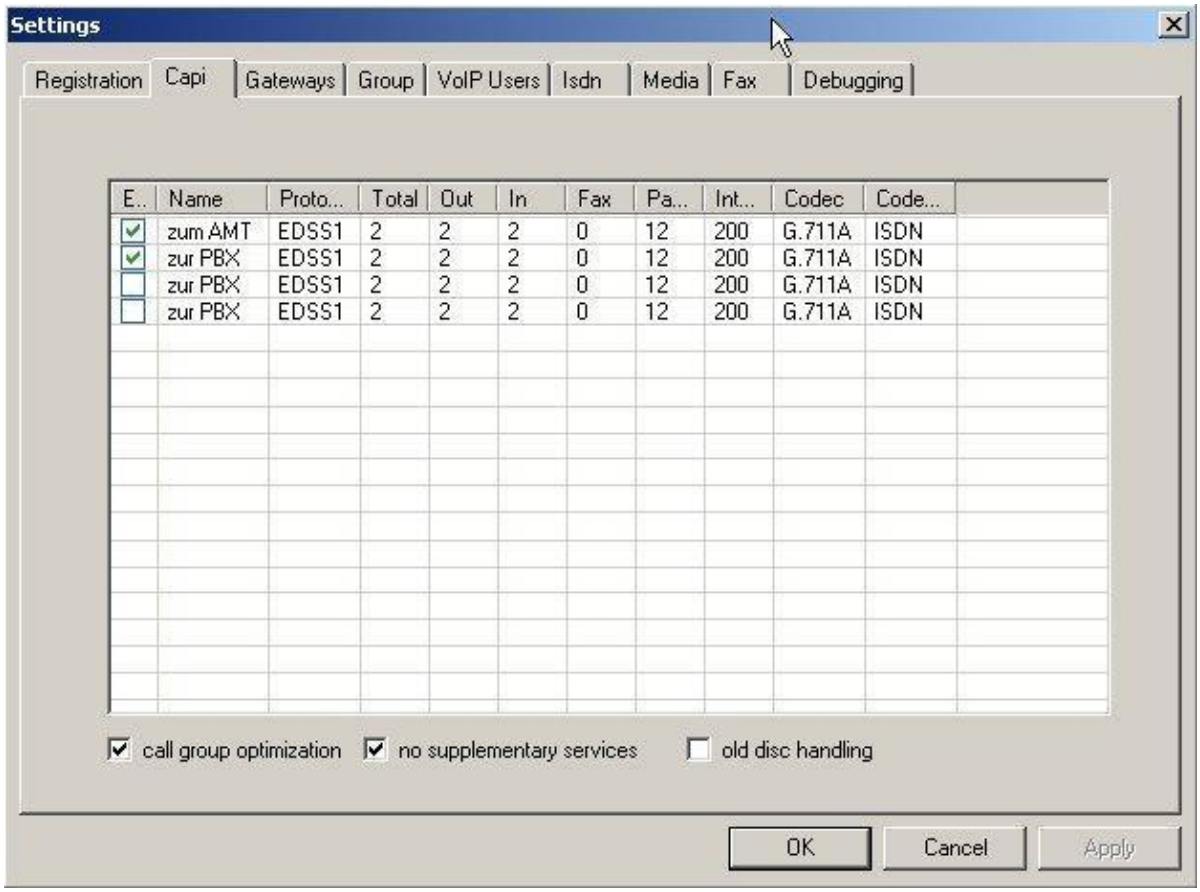
Example: Mobile Pro 60/160



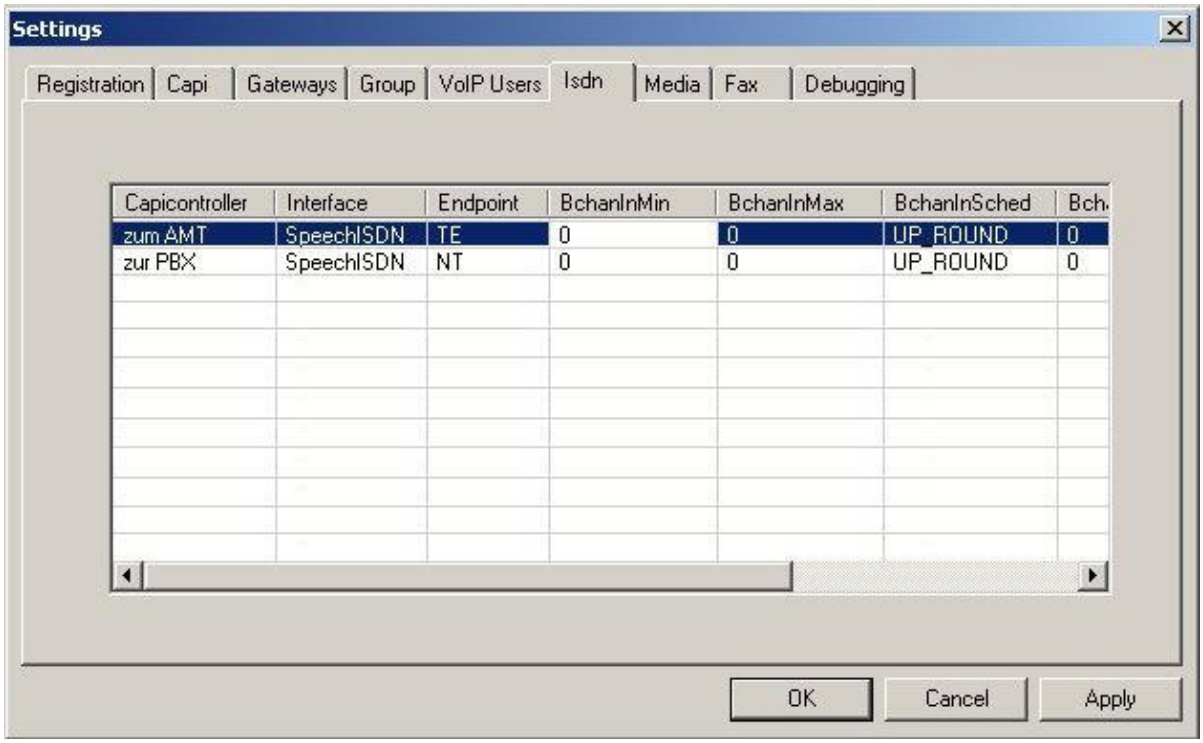

Here, you can check the boxes to define which settings have to be active. Depending on the Mobile Pro model, this varies between 2 rows (for Mobile Pro 30/80 and Mobile Pro 30/500) and 16 rows (for Mobile Pro 8/8). The row number corresponds to the physical controller number (refer also to [#RJ45-Buchsen Rear side of the Mobile Pro]). There may not be any gaps between the rows.

In the following example, an Mobile Pro 60/160 becomes an Mobile Pro 30/160 by changing the configuration as outlined below. The handling with Mobile Pro 4/4 and Mobile Pro 8/8 is correspondingly.

As shown below, deactivate the last 2 boxes (corresponds to 2 ISDN controllers) and change the text in rows 2 and 8 of the "Name" column to "to PBX".




Then, set the operating mode NT under the ISDN tab in the Endpoint column, in rows 2.



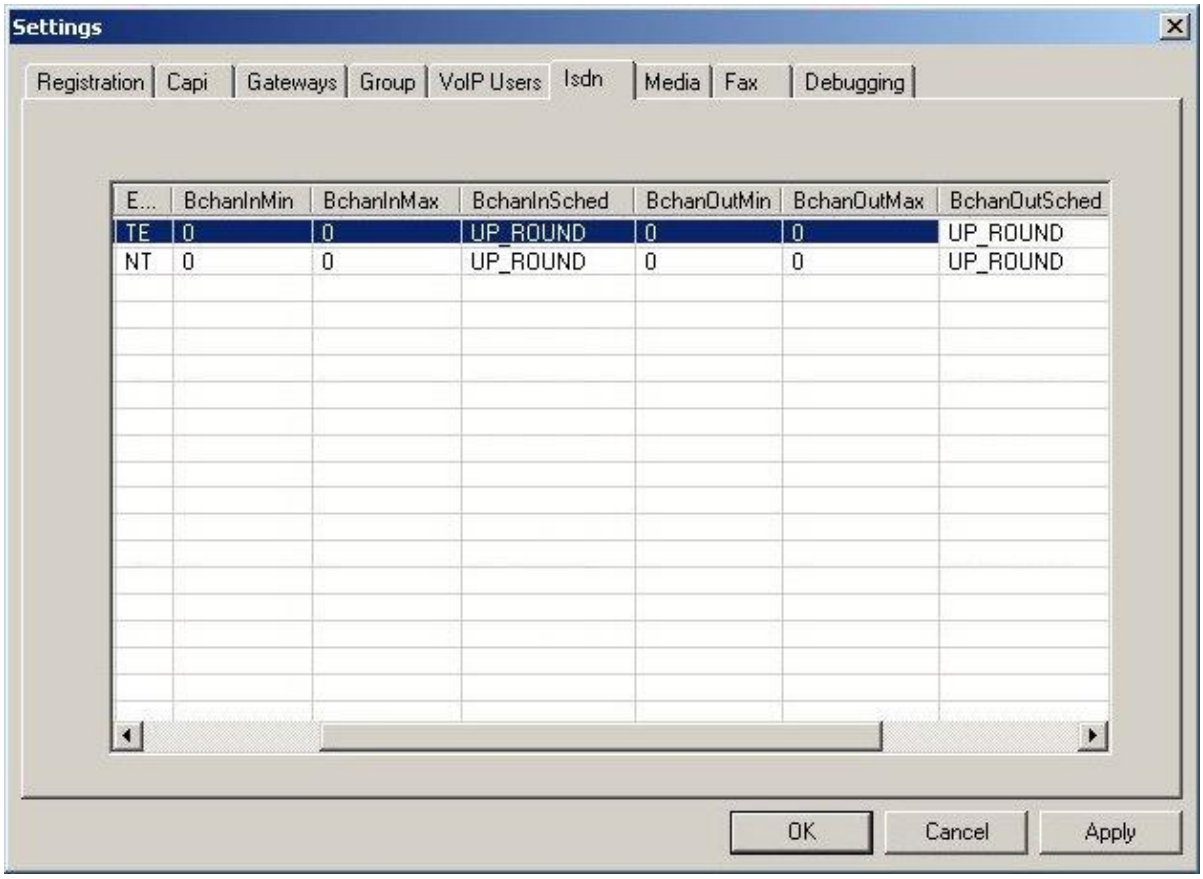

The example procedure described above reduced the original 2 ISDN controllers in the direction of the trunk and in the direction of the PBX to a reduced version with 1 ISDN controllers in the direction of the trunk and in the direction of the PBX.

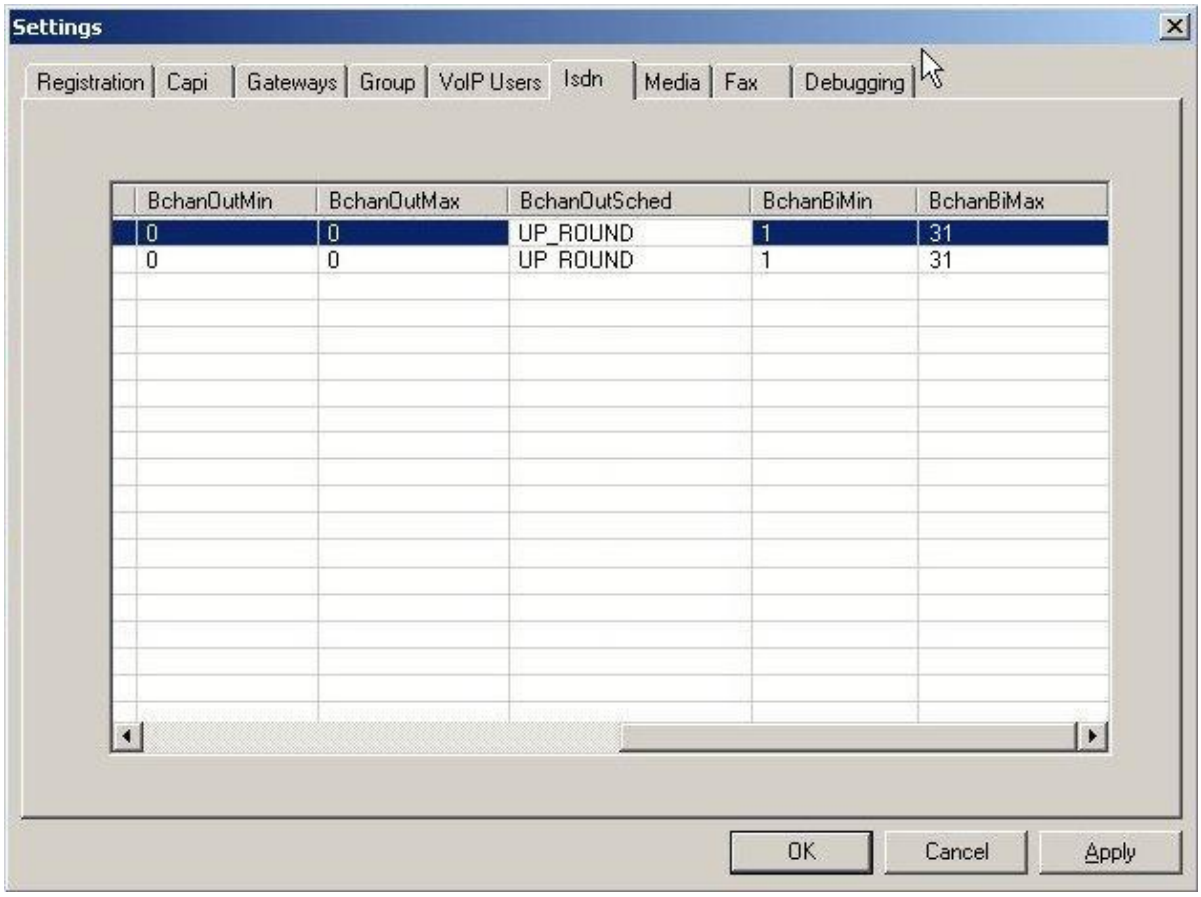
The Public services section shows the modified configuration of the example as a physical structure. Controllers 2 to 16 are marked as disabled and are not to be connected to cables. Refer also to [#Controller configuration Controller configuration]

☞ We recommend maintaining the sequence TE followed by NT.

### 7.5.2 Assigning the B-channels

Here, the settings for assigning the B-channels are described in the configuration file.






These settings are relevant on the NT side only if a "mixed" (incoming/outgoing) B-channel assignment is active.

The B-channels are numbered from 1 - 31.

With the fields "BchanInMin" and "BchanInMax" B-channels for incoming calls are used.

With the fields "BchanOutMin" and "BchanOutMax" B-channels for outgoing calls are used.

With the fields "BchanBiMin" and "BchanBiMax" B-channels for both directions are used.

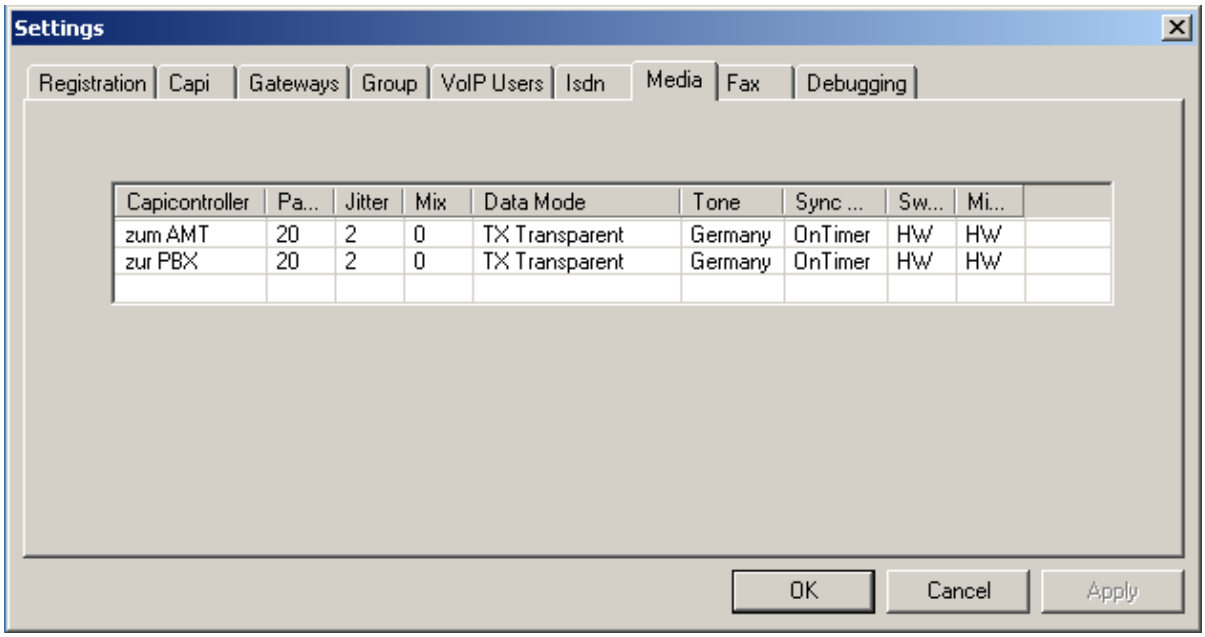
For the assignment, the B-channels for the respective direction are used first. If no more B-channels are available in this pool, the Bi-channels (bidirectional) are used. If none of those are available either, no connection is possible.

Scheduling Modes (BchanInSched BchanOutSched)

| | |
|---|---|
| Up_Count | B-channels are assigned in an order from Min to Max. |
| Down_Count | B-channels are assigned in an order from Max to Min. |
| Up_Round | B-channels are used in upward sequence.<br>The start is not always with Min. |
| Down_Round | B-channels are used in downward sequence.<br>The start is not always with Max. |

### 7.5.3 Media

- Ensure "Data Mode" is in the column, and "TX Transparent" in every row.
- Ensure that "SW" is in the column, and "HW" in every row.



# 8 Public Services

Get to Public Services via the login level "Public":

- From here you can transfer Mobile Pro files (Backups, Logfiles, Traces, etc.) to your PC. Up- and downloads are available via the **Filemanager** of Mobile Pro.

- Select **Controller-configuration** to get a simplified diagram of the Mobile Pro ISDN-Setup settings (rear side of Mobile Pro):

    - Kind of direction (TE,NT)
    - Programming of the controller
        - activ (green)
        - passiv (red)

# 9 IT security

For security reasons, only the following ports are permitted for use:

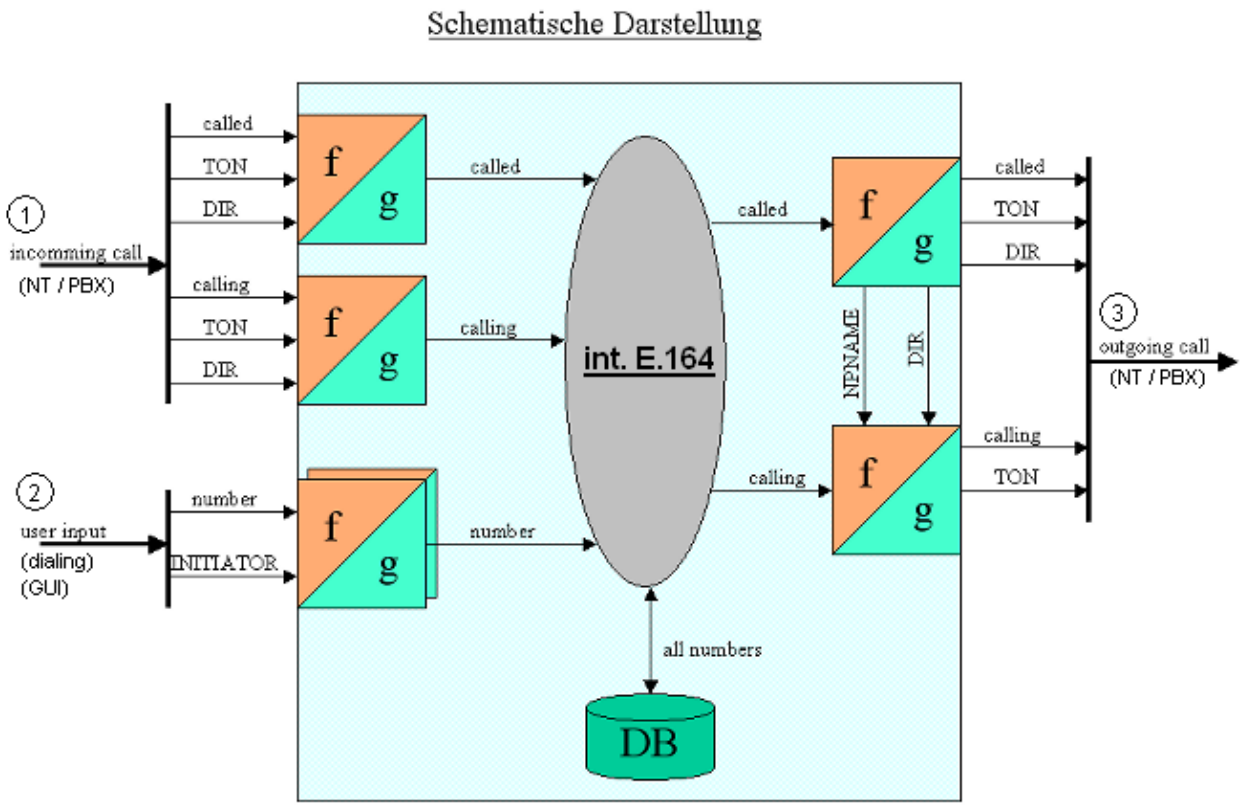
| Software module | Version | TCP port | UDP port |
|---|---|---|---|
| Apache web server with PHP module | 1.3.35 (PHP 4.3.2) | 80 | 80 |
| realVNC remote maintenance software | 4.0 | 5800,5900 | - |
| DNS | | 53 | |
| POP3 | | 110 | |

## 9.1 Release further Ports

In **LAN Eigenschaften** -> **TCP/IP** -> **Erweitert** -> **Option** -> **Eigenschaften** -> **TCP/IP Filtering** further ports can be added.

# 10 Numbering plan - detail

## 10.1 Simplified diagram




### 10.1.1 Numbering plan for incomming calls

The format of the CalledNum and the CallingNum which is transmitted to the Mobile Pro system is depending on what kind of connection the system is connected. Example: the system can be connected between trunk and PBX (=call through) or the system is connected as sub-PBX (behind the PBX via ISDn or SIP). Therefore all numbers have to be transformed into a definite numbering format which is the international format for telephone numbers (E.164). All numbers (User number, forwarding target numbers, .....) have to be set in this format.

Example:

| | | |
|---|---|---|
| 367 | -> | 4989458367 |
| 0171317317 | -> | 49171317317 |
| 0043891233343 | -> | 43891233343 |

### 10.1.2 Numbering plan for dialling and grafical user input (GUI)

Using the international standard format E.164 ease the programming of the settings in the WEB-interface. Example: For "Dialing from main menu" just enter the extension number for internal call (e.g. 317) or the number of an external call. The programmed rule ensures that the numbers are transmfored automatically in the right ("complete") number.

Example:

| | | |
|---|---|---|
| 317 | -> | 4989458317 |
| 0170317317 | -> | 49170317317 |

### 10.1.3 Numbering plan for outgoing call

To enable outgoing calls it is also important to programm all telephone numbers (CalledNum and CallingNum) based on the E.164 format. Also the direction of calls are relevant for the programming.

Example:

| | | |
|---|---|---|
| 4989458317 | -> | 317 // |
| 4969123456 | -> | 069123456 |
| 43891233343 | -> | 43891233343,!Type Of Number = International |

### 10.1.4 Simplified diagram of the transform-rules

For every kind of possible number transformation a single numbering plan has be generated. The quantity of numbering plans are not limited. The numbering plan has a **Filter** and **Generator**. The generator uses the filter which fits the best for numberting transformation (Best Match).

The transform-rules need following numbers:

| 1. Numbering plan for incoming calls | 2. Numbering plan for dialling and GUI | 3. Numberig plan for outgoing calls |
|---|---|---|
| incoming CalledNum | dialing/input | outgoing CalledNum |
| incoming CallingNum | - | outgoing CallingNum |

Example: (Numbering plan for incoming calls/Called)

| incomming called | | | | | | | |
|---|---|---|---|---|---|---|---|
| **NPNAME** | **DIR** | **DIGITS** | **TON** | **MINLEN** | **MAXLEN** | **STRIP** | **INSERT** |
| intern | PBX | | u | 3 | 6 | | 498989458 |
| extern_n | PBX | | n | | | | 49 |
| extern_i | PBX | | i | | | | |
| extern_u_n | PBX | 0 | u | | | 1 | 49 |
| extern_u_i | PBX | 00 | u | | | 2 | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Filter | | | | | | | |
| Generator | | | | | | | |

Legend:

- **NAME:** Free text
- **DIR:** PBX | Trunk // Direction from where a calls is coming/is going. If field is empty the direction is not relevant.
- **INITIATOR:** Is used for *dialing* and *input*. It is option to use the Initiator as additional filter. If the field is empty the initiator is not relevant.
- **DIGITS:** Every number begins with a search pattern (to be read from left to right).
  In special cases you have to programm 't' for call termination with timeout (without hash #). Example for an entry: t0 or t00

- **TON:** type of number // u = unknown, s = subscriber, n = national, i = international
- **MINLEN:** Minimum length of number. Empty fields are not valued.
- **MAXLEN:** Maximum length of number. Empty fields are not values.
- **STRIP:** Number (quantity) of digits which are removed left from the telephone number. The removed digits are saved for further processing in variables '$n'. It is also possible to remove digits repeatedly, in order to save them in several variables
  Example: Nummer='1234567', Strip= '2,3' -> Variable $1='12' Variable $2='345'. The number itself is reduced to '67'
- **INSERT:** Pattern, which is always added on the left side of the number. Here, also the variables '$n' can be added.

**Entry and diagram of transform ruels**

Within the menu "Numbering plan" (in "System administration") you find the menu ">>Individual Settings". Here the transform rules can be edited. If you enter a new rule, the table only shows the fields which are constitutive for the rule.

## 10.1.5 Plans

### 10.1.5.1 Numbering plan for incoming rules

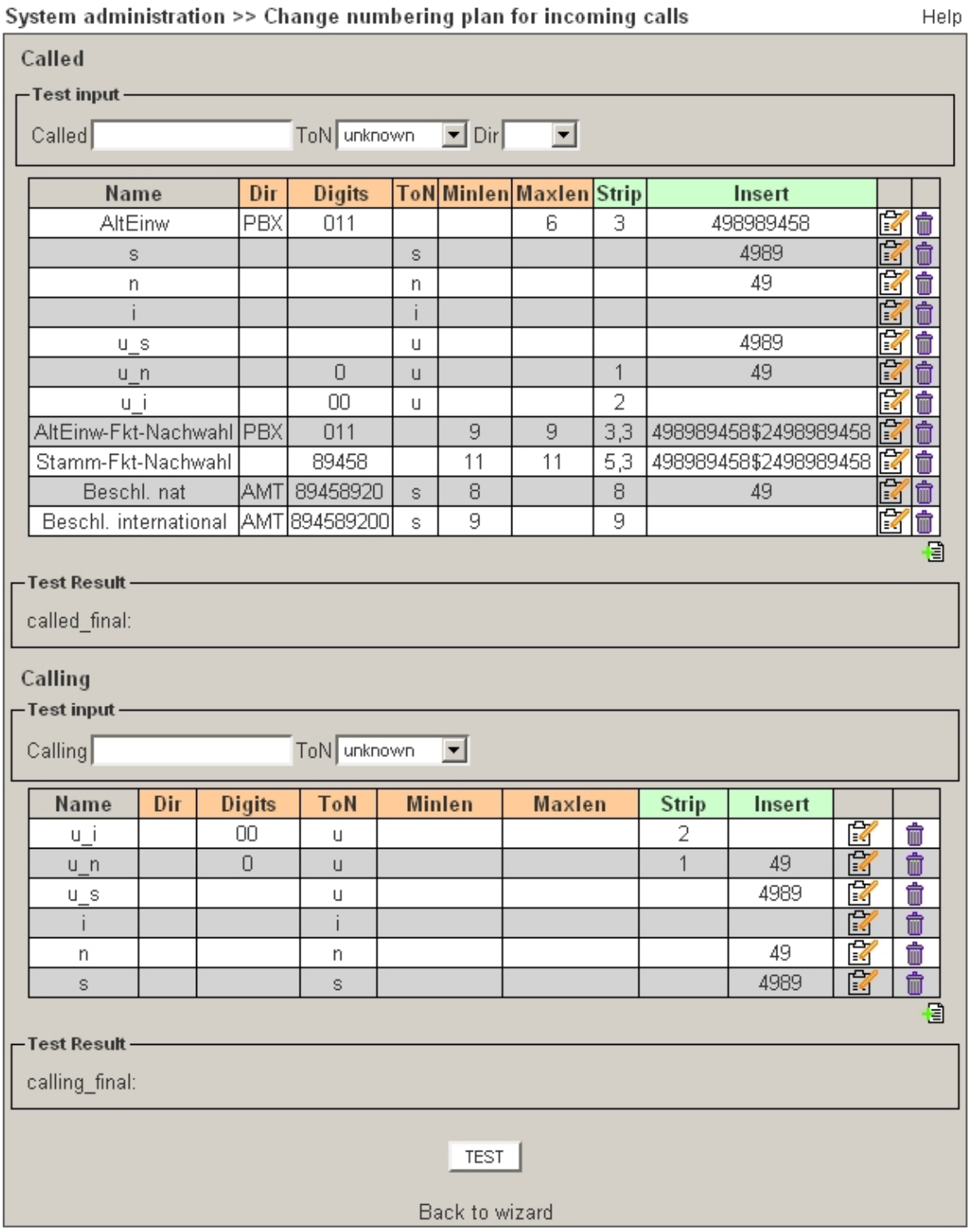
On page incomingNumberingPlan the *Lists* for Called and Calling are shown.
In Step2 you can test the plans. (Input: CalledNum, CallingNum,Dir... Output: CalledNum, CallingNum, Ton...).

For each Called and Calling an own list.

- List

| Überschrift | NPNNAME | DIR | DIGITS | TON | MINLEN | MAXLEN | STRIP | INSERT |
|---|---|---|---|---|---|---|---|---|
| Inhalte | ['NPNNAME'] | ['DIR_INITIATOR'] | ['DIGITS'] | ['TON'] | ['MINLEN'] | ['MAXLEN'] | ['STRIP'] | ['INSERT'] |
| Beispiel | intern | PBX | 0 | subsciber | 12 | 15 | 1 | 49 |

- Link: *Add*




- Form

| Description | Typ | Default / Value | allowed input |
|---|---|---|---|
| NPNNAME | text | *empty* | alnum |
| Dir | select | *see *DIR* | |
| Digits | text | *empty* | digit |
| Type Of Number | select | *see *TON* | |

| | | | |
|---|---|---|---|
| MinLen | text | *empty* | digit |
| MaxLen | text | *empty* | digit |
| Strip | text | *empty* | digit |
| Insert | text | *empty* | digit |

> Enter the values into the fields accordingly

### 10.1.5.2 Numbering plan for outgoing calls

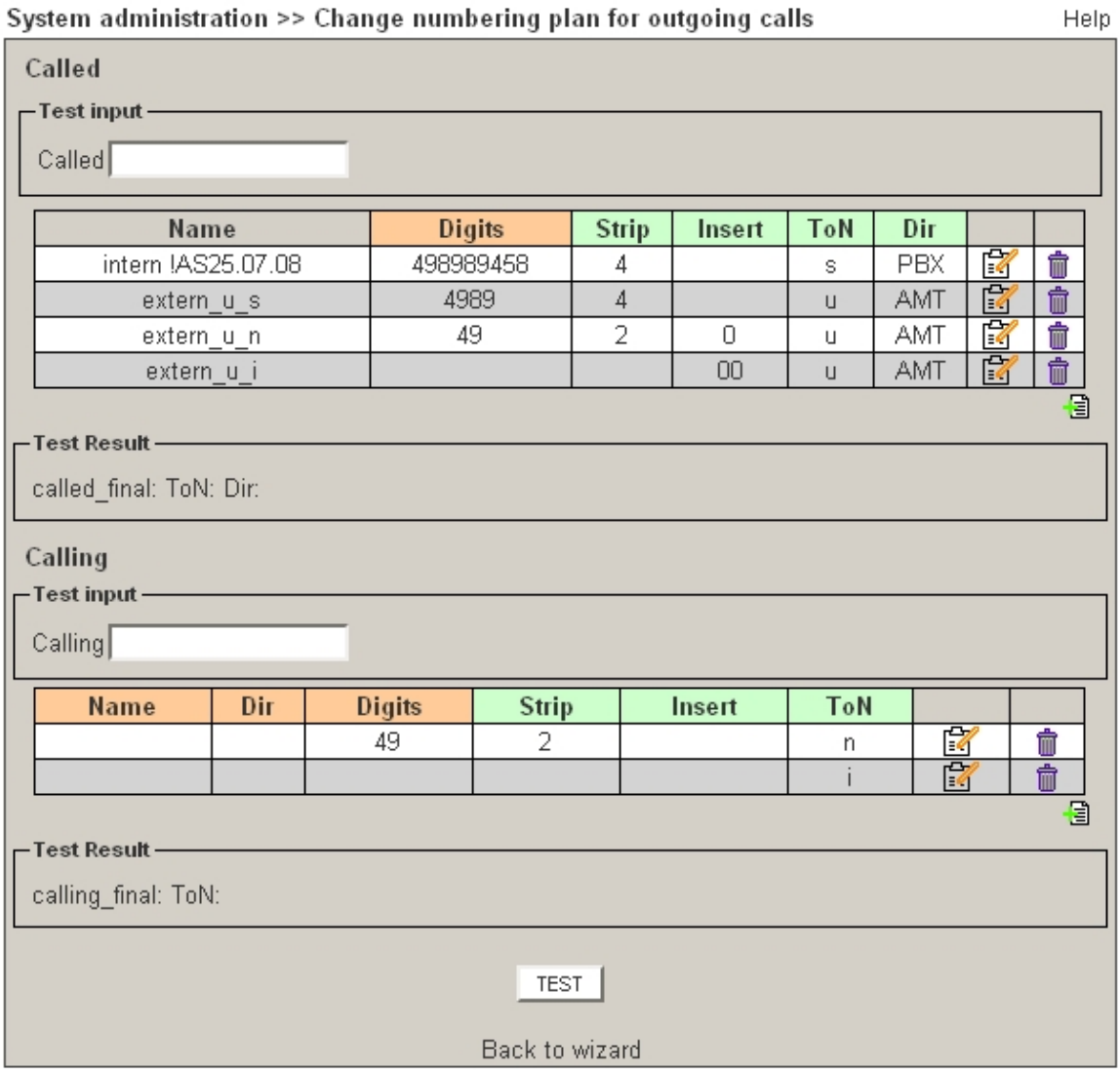
On page outgoingNumberingPlan the *Lists* for Called and Calling are shown.
In Step2 you can test the plans.(Input: CalledNum, CallingNum,Dir... Output: CalledNum, CallingNum, Ton...).

Outgoing Called

- List

| Überschrift | NPNNAME | DIGITS | STRIP | INSERT | TON | Dir |
|---|---|---|---|---|---|---|
| Inhalte | ['NPNNAME'] | ['DIGITS'] | ['STRIP'] | ['INSERT'] | ['TON'] | ['DIR_INITIATOR'] |
| Beispiel | intern | 498989458317 | 4 | | s | PBX |

- Link: *Add*




- Form

| Description | Typ | Default / Value | allowed input |
|---|---|---|---|
| NPNNAME | text | *empty* | alnum |
| Digits | text | *empty* | digit[*#+] |
| Strip | text | *empty* | digit |
| Insert | text | *empty* | digit |
| Type Of Number | select | *see *TON* | digit |
| Dir | select | *see *DIR* | digit |
| > | Enter the values into the fields accordingly | | |

Outgoing Calling

- List

| Überschrift | NPNNAME | DIR | DIGITS | STRIP | INSERT | TON |
|---|---|---|---|---|---|---|
| Inhalte | ['NPNNAME'] | ['DIR_INITIATOR'] | ['DIGITS'] | ['STRIP'] | ['INSERT'] | ['TON'] |
| Beispiel | intern | PBX | 49170123873 | 2 | 0 | n |

- Link: *Add*

- Form

| Description | Typ | Default / Value \|<: bgcolor="#e0e0e0"> allowed input | |
|---|---|---|---|
| NPNNAME | select | List from NPNAME(outgoing Called ) | alnum |
| Dir | select | *see *DIR* | |
| Digits | text | *empty* | digit[*#+] |
| Strip | text | *empty* | digit |
| Insert | text | *empty* | digit |
| Type Of Number | select | *see *TON* | digit |

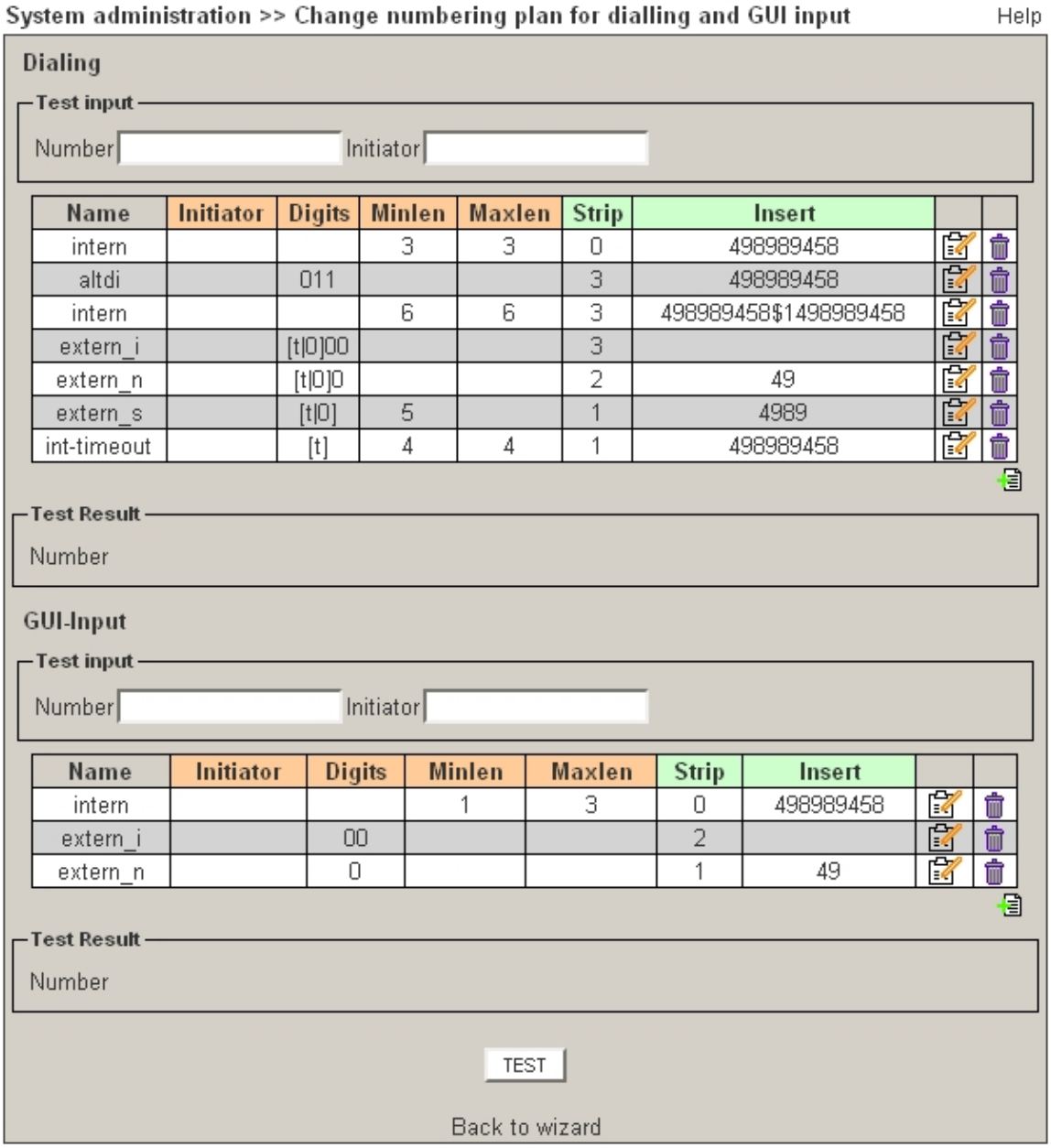
### 10.1.5.3 Numbering plan for dialling and grafical user input (GUI)

On page dialing/inputNumberingPlan the *Lists* for dialing and input are shown.
Here you create the numbering plans, which are used for 'Dialing from main menu' and for the 'entry of numbers on the WEB-interface' (also for update and restore < 4.1 ).
In Step2 you can test the plans. (Input: Initator, Number Output: Number).

- List

| Überschrift | NPNNAME | INITIATOR | DIGITS | MINLEN | MAXLEN | STRIP | INSERT |
|---|---|---|---|---|---|---|---|
| Inhalte | ['NPNNAME'] | ['DIR_INITIATOR'] | ['DIGITS'] | ['MINLEN'] | ['MAXLEN'] | ['STRIP'] | ['INSERT'] |
| Beispiel | intern_münchen | 498989458 | | 3 | 3 | | 498989458 |
| Beispiel | intern_frankfurt | 496912345 | | 3 | 3 | | 496912345 |

- Link: *Add*




- Form

| Description | Typ | Default / Value | allowed input |
|---|---|---|---|
| NPNNAME | select | List from NPNAME(outgoing Called ) | alnum |
| Initiator | text | *empty* | digit |
| Digits | text | *empty* | digit[*#+] |
| MinLen | text | *empty* | digit |
| MaxLen | text | *empty* | digit |
| Strip | text | *empty* | digit |
| Insert | text | *empty* | digit |

> Enter the values into the fields accordingly

- Attachment:

| *DIR | |
|---|---|
| **Default** | **Value** |
| *empty* | *empty* |
| PBX | PBX |
| Trunk | Trunk |

| *TON | |
|---|---|
| **Default** | **Value** |
| *empty* | *empty* |
| unknown | u |
| subsciber | s |
| national | n |
| international | i |

### 10.1.6 Mixed Extension lengths and "Function numbers with DTMF redialling"

Within the menu "Numbering plan" (in "System administration") you find the menu ">>Individual Settings". Here the transform rules can be edited. If you enter a new rule, the table only shows the fields which are constitutive for the rule:

Mixed Extension lengths and "Function numbers with DTMF redialling

Example for function number "Callback": Basically, in this example two numbers are combined in one. The function number for Callback is -900; the user number is -101. The system dials [89458]900101, which is 498989458900 for function callback and 498989458101 (user number). If the extension numbers of the company have all the same length, the Wizar creates following rule (see below). If the extensions have different lengths, you have to enter the highest length (example 3 digits):

- Digits: 89458
- Minlen: 11
- Maxlen: 11
- Strip: 5,3
- Insert: 498989458$2498989458

Strip 5,3 removes the first 5 digits "89345" and the next 3 digits "900".

⚠ If the function number has just 2 digits and/or the user number has 2 digits, the rule will not work anymore because Minlen and Strip are wrong.

Therefore, if the extension numbers of the company have different lengths Minlen, Maxlen and Strip have to be adjusted.

Example 1: 2- and 3-digit extensions. The function number has 2 digits:

- Digits: 89458 // no change
- Minlen: 9 // Length of PBX number(5) + Length of function number(2) + Length of shortst user number(2)
- Maxlen: 10 // Length of PBX number(5) + Length of function number(2) + Length of longest user number(3)
- Strip: 5,2 // Length of PBX number(5), Length of function number(2)

Example 2: 2, 3 and 4-digit extensions. The function number has 4-digits.

- Digits: 89458 // no change
- Minlen: 11 // Length of PBX number(5) + Length of function number(4) + Length of shortst user number(2)
- Maxlen: 13 // Length of PBX number(5) + Length of function number(4) + Length of longest user number(4)
- Strip: 5,4 // Length of PBX number 5),Length of function number(4)

# 11 Troubleshooting

For troubleshooting purposes, the following software tools are provided on the Mobile Pro Desktop:

| **Tool** | **Purpose** |
|---|---|
| "Voice IV Server" | Monitoring and tracing tool |
| "Mobile Pro Reset" | Ist kein WEB-Zugang möglich (z.B. Passwort vergessen), kann der RESET (Auslieferzustand) über „Mobile Pro-Reset“ auf dem Desktop ausgeführt werden. Dieser Link funktioniert nur vom localhost aus. |
| "Event Viewer" via My Computer -> Manager | Status displays regarding layers 1/2 |

Almost all of these software tools have their own onscreen help.

# 12 FAQs

For answers to frequently asked questions, visit:

`http://www.speech-design.com/de/Partner/Login`

# 13 Uninstalling the Mobile Pro

Bei einem Abbau des Systems beachten Sie bitte folgende Schritte:

| | |
|---|---|
| > | Make a data backup by creating a backup file (Mobile Pro web interface >>Backup). Save the backup file to an external medium (such as a USB stick). |
| > | Then, to restore the system to its factory settings, carry out a reset (Mobile Pro web interface >> Reset). This deletes all settings and saved data. |
| > | Press the lock switch of the switch box to disable it. |

*The PBX is now connected directly to the NT.*

| | |
|---|---|
| > | Disconnect the cables between the Mobile Pro and the switch box. |
| > | Shut down the system. |
| > | To uninstall the switch box, disconnect the remaining cables from the switch box (to NT and to PBX) and restore the original connection between the NT and PBX. |
| > | After the uninstallation, return all cables along with the system. |

# 14 Final decommissioning

The Mobile Pro contains electronic components that must be disposed of properly.

| | |
|---|---|
| > | Therefore, after final decommissioning of the unit, give it over to an electronics recycling facility. |

# 15 Technical data

| | |
|---|---|
| Type of construction | 19-inch rack-mounted unit, 3 HU |
| Environmental temperature<br>while storage:<br>in operation: | <br>0 up to 40°C<br>+15°C to +45°C |
| Environmental humidity<br>while storage and in operation : | <br>15%-95% relative humidity |
| Connections<br>Mobile Pro 30/80 (PRI)<br>Mobile Pro 30/500 (PRI)<br>Mobile Pro 60/160 (PRI)<br>Mobile Pro 60/500 (PRI)<br>Mobile Pro 4/4 (BRI)<br>Mobile Pro 8/8 (BRI) | <br>2 x PRI connections - 30 in, 30 out, 80 user<br>2 x PRI connections - 30 in, 30 out, 500 user<br>4 x PRI connections - 60 in, 60 out, 160 user<br>4 x PRI connections - 60 in, 60 out, 500 user<br>8 x BRI connections - 8 in, 8 out, 25 user<br>16 x BRI connections - 16 in, 16 out, 35 user |
| Power supply | 230 VAC<br>50-60 Hz<br>Power input max.: 150W |
| Weight<br>Mobile Pro 30/80<br>Mobile Pro 30/500<br>Mobile Pro 60/160<br>Mobile Pro 60/500<br>Mobile Pro 4/4<br>Mobile Pro 8/8<br>Switch-Box:<br>Power supply to Switch-Box<br><br>Subpackage(cable)<br>Mobile Pro 30/30:<br>Mobile Pro 60/60:<br>Mobile Pro 4/4:<br>Mobile Pro 8/8: | <br>ca. 8,5 kg (3 HE)<br>ca. 8,6 kg<br>. . . . .<br>. . . . .<br>. . . . .<br>. . . . .<br>ca. 0,33 kg<br>ca. 0,1 kg<br><br>ca. 0,8 kg<br>ca.2 kg<br>. . . . .<br>. . . . . |
| Dimensions (width, height, depth) | (3 HU) 483 mm (with front panel) / 133 mm / 430 mm |
| LAN | 10/100 Base-T Ethernet |

# 16 GLOSSARY

| | |
|---|---|
| Browser | Program for viewing websites (e.g. Internet Explorer or Firefox). |
| DHCP | Dynamic Host Configuration Protocol; A protocol that allows a device in the network to assign an IP address to other devices in the network, either when the connection is established or at another time. |
| IP | Internet Protocol; defines how devices in a data network communicate with each other. |
| IP address | Address of a device in a network that corresponds to the specifications of the Internet Protocol. |
| LAN | Local Area Network. |